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Protection of coral reefs for sustainable livelihoods and development

Report of the Secretary-General

Summary

Often referred to as the "rainforests of the sea", tropical coral reefs, which rank among the most biologically rich and productive global ecosystems, provide social, economic and environmental benefits for millions of people. Yet, despite their importance, coral reefs are facing numerous local and global threats caused by human activity and climate change. Unsustainable fishing practices, coastal development, pollution, ocean warming and ocean acidification have already damaged one fifth of the coral reefs beyond repair and predictions of what could arise should no change occur are alarming. Concerted global, national, regional and local efforts are therefore urgently required.

Protection, resilience-building, recovery, conservation and adaptation measures need to be implemented in an integrated and coherent manner and tailored to regional, national and local community needs, while involving all stakeholders. The United Nations Conference on Sustainable Development will offer the opportunity to review progress made to date as well as the remaining gaps in the implementation of the principles of the Rio Declaration on Environment and Development, Agenda 21, the marine-related goals and targets set out in the Johannesburg Plan of Implementation, and other ocean-related international agreements. In addition, the Conference could serve to secure renewed political commitment by formulating concrete ocean and coral reef-related measures and actions.

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I. Introduction

1. The General Assembly adopted resolution 65/150, entitled "Protection of coral reefs for sustainable livelihoods and development", at its sixty-fifth session in which it, inter alia, urged States to take all practical steps at all levels to protect coral reefs and related ecosystems for sustainable livelihoods and development, including immediate and concerted global, regional and local action to respond to the challenges and to address the adverse impact of climate change, as well as of ocean acidification, on coral reefs and related ecosystems; and also urged them to formulate, adopt and implement integrated and comprehensive approaches for the management of coral reefs and related ecosystems.

2. In paragraph 3 of the same resolution, the General Assembly requested the Secretary-General to prepare a comprehensive report on the protection of coral reefs for sustainable livelihoods and development by the Assembly, for consideration at its sixty-sixth session. Pursuant to that request, the present report highlights the importance of protecting coral reefs and conducts an analysis of the economic, social and development benefits of coral-reef protection in the context of the themes and objectives of the United Nations Conference on Sustainable Development, to be held in 2012. The report also identifies needed actions with the potential to protect coral reefs and related ecosystems.

3. The report draws on substantive inputs and information provided by Governments and United Nations programmes and organizations, in particular the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP).[1] The International Maritime Organization (IMO), and the International Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO); the Intergovernmental Panel on Climate Change (IPCC); IUCN, International Union for Conservation of Nature; the World Resources Institute; the International Coral Reef Initiative (ICRI); the Western Indian Ocean Coastal Challenge; and Conservation International also contributed inputs.[2]

II. Coral reefs and sustainable development

4. In the context of the well-established importance of oceans and coral reefs in achieving sustainable development goals,[3] this report enumerates a number of international, national, regional and local efforts that have been designed to protect and manage coral reefs as part of an overall effort to enhance the sustainable development of marine and coastal areas.

A. The United Nations

5. Member States meeting at the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992, adopted the Rio Declaration on

[1] See UNEP Coral Reefs website (http://coral.unep.ch/).

[2] See http://www.un.org/esa/dsd/.

[3] Some coral reefs are even declared UNESCO World Heritage Sites (for example, the Belize Barrier Reef, in 1996).

Environment and Development[4] and Agenda 21.[5] Chapter 17 of Agenda 21 specifically addresses the protection and sustainable development of the marine and coastal environment within the context of the United Nations Convention on the Law of the Sea,[6] which has established the basis for ocean governance and provided the overall legal framework for dealing with ocean matters, including economic activities in maritime areas, protection and preservation of the marine environment, and marine science and technology.

6. The Convention on Biological Diversity[7] entered into force in 1993. At their second meeting, held in Jakarta in November 1995, the Conference of the Parties to the Convention adopted the Jakarta Mandate on Marine and Coastal Biological Diversity.[8] Since 1998, the Convention has addressed issues such as integrated marine and coastal area management, marine protected areas, coral bleaching, and physical degradation and destruction of coral reefs.

7. The tenth meeting of the Conference of the Parties to the Convention, held in Nagoya, Japan, in October 2010, resulted in the adoption by the Conference of the Parties of decision X/2 regarding the establishment of the Strategic Plan for Biodiversity 2011-2020 which aims, inter alia, to minimize the multiple threats to coral reefs, and other vulnerable ecosystems by 2015 (target 10).[9] In the same context, decision X/29[10] emphasized the need for data collection and analysis, environmental (impact) assessments and the establishment of measures to ensure conservation and sustainable use of marine and coastal living resources. In addition, it suggested the drafting of a report on the progress made in the implementation of the specific workplan on coral bleaching.

8. The United Nations Framework Convention on Climate Change,[11] which came into force in 1994, provides the framework for establishing protocols to stabilize greenhouse gas concentrations in the atmosphere and for undertaking intergovernmental efforts to tackle the challenges posed by climate change.

9. Other conventions that are relevant for the protection of coral reefs include the International Convention for the Prevention of Pollution from Ships, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter (London Convention)[12] and the Protocol thereto (London Protocol), the Convention on International Trade in Endangered Species of Wild Fauna and Flora,[13] the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention),[14] the Convention on the Conservation of Migratory Species of Wild Animals,[15] and the Convention for the Protection, Management and

[4] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992*, vol. I, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex I.

[5] Ibid., annex II.

[6] United Nations, *Treaty Series*, vol. 1833, No. 31363.

[7] Ibid., vol. 1760, No. 30619.

[8] UNEP/CBD/COP/2/19, annex, decision II/10.

[9] See UNEP/CBD/COP/10/27, annex.

[10] Ibid.

[11] United Nations, *Treaty Series*, vol. 1771, No. 30822.

[12] Ibid., vol. 1046, No. 15749.

[13] Ibid., vol. 993, No. 14537.

[14] Ibid., vol. 996, No. 14583.

[15] Ibid., vol. 1651, No. 28395.

Development of the Marine and Coastal Environment of the Eastern African Region.[16]

10. In 1994, the Global Conference on the Sustainable Development of Small Island Developing States adopted the Barbados Programme of Action for the Sustainable Development of Small Island Developing States,[17] which explicitly identified coastal and marine resources as an area requiring urgent action. Its implementation was reviewed at the fourth session (1996) and the sixth session (1998) of the Commission on Sustainable Development and it was reaffirmed by the Mauritius Declaration[18] and the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States[19] in 2005.

11. At the seventh session of the Commission on Sustainable Development in 1999, a call for action was launched to eliminate overfishing and wasteful fishing practices. Commission decision 7/1[20] emphasized that "oceans and seas constitute the major part of the planet that supports life, drive the climate and hydrological cycle, and provide the vital resources to be used to ensure well-being for present and future generations and economic prosperity, to eradicate poverty, to ensure food security and to conserve marine biological diversity and its intrinsic value for maintaining the conditions that support life on earth" (para. 1).

12. Other General Assembly resolutions relating to coral reefs include resolution 61/105 (8 December 2006) on sustainable fisheries, resolution 63/214 on the sustainable development of the Caribbean Sea for present and future generations (19 December 2008) and resolution 64/73 (7 December 2009) on the protection of global climate for present and future generations of humankind.

13. In 2000, the United Nations Millennium Declaration[21] re-emphasized the need to protect the environment and to manage all living species and natural resources in a sustainable manner, while reaffirming support for the principles of sustainable development, including those set out in Agenda 21.

14. Paragraphs 30 to 36 of the Plan of Implementation of the World Summit on Sustainable Development ("Johannesburg Plan of Implementation"),[22] adopted at the World Summit on Sustainable Development in 2002, focus on oceans, seas, islands and coastal areas. The Johannesburg Plan of Implementation promotes the establishment of inter-agency coordination mechanisms within the United Nations

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[16] Available from www.unep.org.

[17] *Report of the Global Conference on the Sustainable Development of Small Island Developing States, Bridgetown, Barbados, 25 April-6 May 1994* (United Nations publication, Sales No. E.94.I.18 and corrigenda), chap. I, resolution 1, annex II.

[18] *Report of the International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, Port Louis, Mauritius, 10-14 January 2005* (United Nations publication, Sales No. E.05.II.A.4 and corrigendum), chap. I, resolution 1, annex I.

[19] Ibid., annex II.

[20] See E/1999/29, chap. I.C.

[21] See General Assembly resolution 55/2.

[22] *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

system and encourages regional cooperation among relevant regional organizations and programmes.

15. The Intergovernmental Oceanographic Commission of UNESCO facilitates and coordinates sustained observations, modelling and analysis of marine and ocean variables and processes to support decision-making process worldwide. In this context, the Global Ocean Observing System (GOOS) has been developed to provide accurate descriptions of the present state of the ocean, including living resources, continuous forecasts of the future conditions of the sea, and the basis for forecasts of climate change, including those needed to monitor and protect coral reefs.

16. In 2003, UN-Oceans[23] was created as an inter-agency coordination mechanism on ocean and coastal issues, including coral reefs, building on the work of the former Subcommittee on Oceans and Coastal Areas of the Administrative Committee on Coordination. Its role is to promote the coherence of United Nations system activities on oceans and coastal areas with the mandates of the General Assembly, the priorities contained in the Millennium Development Goals and the Johannesburg Plan of Implementation and the mandates of governing bodies of all members of UN-Oceans, and to support the integrated management of oceans at the international level.

B. International and regional networks and non-governmental organizations

17. The International Coral Reef Initiative, a partnership among Governments, international organizations and non-governmental organizations, was launched in 1994 as the only global entity devoted solely to coral reef conservation. Its aim is to preserve coral reefs and related ecosystems by implementing chapter 17 of Agenda 21, and other relevant international conventions and agreements. At the same time, the Global Coral Reef Monitoring Network (GCRMN) was established as an operating unit of the Initiative, to assist in the development of coral reef monitoring and data management, with equal emphasis on ecological and socio-economic information, and to compile reports on the global status of coral reefs.

18. In 1995, the International Coral Reef Initiative called on member States to commit themselves to engaging in more research on and monitoring of coral reefs so as to provide data for effective management (under its Call to Action and Framework for Action).

19. In 2007, the Government of Seychelles initiated the Western Indian Ocean Coastal Challenge (WIO-CC), which invited countries of the region to collaborate

[23] Current members include: the Convention on Biological Diversity, the Food and Agriculture Organization of the United Nations (FAO), the International Atomic Energy Agency (IAEA), the International Labour Organization (ILO), IOC-UNESCO, IMO, the International Seabed Authority, the Department of Economic and Social Affairs of the United Nations Secretariat, the Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs of the United Nations Secretariat, UNDP, UNEP, the United Nations Industrial Development Organization (UNIDO), the World Meteorological Organization (WMO), the World Bank and the World Tourism Organization.

on reducing the adverse impacts of climate change, while promoting resilient ecosystems, sustainable livelihoods and human security.

20. In 2009, the World Ocean Conference, a global forum on oceans, assembled ministers and heads of delegations, experts, scientists, and intergovernmental and non-governmental organizations to discuss threats to the ocean, effects of climate change on the ocean, and the role of ocean in climate change. The result was the adoption of the Manado Ocean Declaration, which stressed the need for national strategies for the sustainable management of coastal and marine ecosystems.

21. In 2010, the Pacific Oceanscape framework was adopted by the Pacific Leaders Forum as a call for united action against ocean threats across the Pacific. This framework was part of a broader movement entitled the "Pacific Ocean 2020 Challenge", an intergovernmental initiative encouraging leaders to cooperate in responding to the major threats to the Pacific.

22. Other important regional initiatives relevant to coral reefs include the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security, the Micronesia Challenge, the Caribbean Challenge, the Eastern Tropical Pacific Seascape project, the West Indian Ocean Partnership, the West African Conservation Challenge, and the Regional Initiative for the Conservation and Wise Use of Mangroves and Coral Reefs in the Americas.

23. Finally, numerous non-governmental organizations and foundations are implementing programmes and initiatives whose aim is to protect and conserve coral reefs.

C. Opportunities for further cooperation

24. The United Nations Conference on Sustainable Development (Rio+20), which will be held in Rio de Janeiro, from 4 to 6 June 2012, offers a unique opportunity to bring together government representatives, civil society, academia, the scientific community and the private sector to discuss sustainable development issues, including the sustainable management and protection of coral reefs.

25. The Conference will provide the opportunity to review progress made to date as well as the remaining gaps in the implementation of the principles contained in the Rio Declaration, of Agenda 21, of the marine-related goals and targets set out in the Johannesburg Plan of Implementation, and of other ocean-related international agreements.

26. In addition, the Conference could serve as an opportunity to secure renewed political commitment through the formulation of concrete ocean and coral reef-related measures and actions. New and emerging challenges, such as the recent severe impacts of climate change and the opportunities (and possible drawbacks) associated with new technologies (for example, geo-engineering), could also be addressed.

27. The Commission on Sustainable Development is scheduled to undertake a two-year review of oceans, marine life and small island developing States in 2015-2016.

III. The importance of protecting coral reefs and related ecosystems for sustainable livelihoods and development (including current status and adverse impacts)

28. Large reef-building areas can be found in the Atlantic, the Indian Ocean, the Middle East, the Pacific, South-East Asia and Australia, with its Great Barrier Reef, which represents the world's largest coral reef system. Grounded by the seabed, coral reefs are built up over very long periods of time (centuries or more) through the accumulation of calcium carbonate skeletons, which have been discarded by reef-building corals (mainly stony corals).

29. Most coral reefs exist in tropical waters. The corals that build tropical coral reefs are small marine organisms called polyps which live in compact colonies and depend upon a symbiotic relationship with the algae that live within their tissue and give them their colouration.

30. Rivalling the tropical coral reefs in species diversity, cold-water coral communities are now known to exist around the world, generally in waters deeper than 40 metres (m) and also at depths that can be well over 1,000 m. While only a few species form actual reefs, cold-water coral mounds and banks provide a habitat and reproductive grounds for a range of species, including commercially important fish and shellfish. Discovered in 2002, the Røst Reef in northern Norway is regarded as the largest cold-water reef. To date, knowledge of cold-water coral ecology, of the extent and status of communities, and of their socio-economic value remains limited.

31. Often referred to as "rainforests of the sea", tropical coral reefs are among the most biodiverse systems on the planet. They are also highly productive, and sustain human society through a range of provisioning and supporting services. Tropical coral reefs cover about 250,000 square kilometres (km^2) of ocean and while constituting only less than one tenth of 1 per cent of the marine environment, they offer habitat to 25 per cent of all known marine species.

32. One of the main functions of global coral reefs is to protect about 150,000 km of shoreline in more than 100 countries and territories as they dissolve wave energy and reduce damages from erosion, floods and storms, thereby protecting human settlements, infrastructure and coastal ecosystems.

33. Apart from environmental benefits, coral reefs also offer important social and economic ones. Of all natural ecosystems on the planet, coral reefs, along with mangroves and seagrass beds, have been estimated to deliver the highest annual value in terms of ecosystem services. Approximately 850 million people (one eighth of the global population) live within 100 km of reefs and derive some benefits from coral reefs, while over 275 million, mostly in developing countries and island nations, depend directly on reefs for livelihoods and sustenance.

34. Coral-reef fish species represent an important source of protein and contribute about one quarter of the total fish catch on average in developing countries, while at the same time creating job opportunities. A healthy and effectively managed coral reef can produce 5 to 15 tons of fish and seafood per km per year.

35. Coral reefs support the tourism industry of more than 100 countries, as they attract divers, snorkellers and recreational fishers and provide sand for beaches. In

addition, some reef-related marine species have even been analysed and tested for pharmaceutical use, mainly in the area of cancer, HIV and malaria treatment. Further information on economic, social and environmental benefits can be found in section IV below.

36. Despite their importance, coral reefs are facing numerous local and global threats, which generally occur in combination.

37. The main local threats are unsustainable fishing practices, coastal development and watershed- and marine-based pollution. These threats reduce the ability of coral reefs, associated ecosystems and human populations to withstand and adapt to increasing climate change (see table 1).

38. From a regional perspective, South-East Asia has been the most affected by local threats, resulting in endangerment of almost 95 per cent of its coral reefs. The coral reefs in Australia are the least threatened, with only about 14 per cent at risk.[24]

Table 1
Overview of local threats and their impacts

Local threat	*Details*	*Percentage of affected coral reefs*	*Impacts*	*Trends*
Overfishing and destructive fishing	• Unsustainable harvesting of fish or invertebrates • Damaging fishing practices (use of explosives or poisons) • Illegal, unreported and unregulated fishing • Destructive fish gear (for example, gill nets, discarded/lost nets) • "Fishing down the food chain"	**More than 55 per cent** (of which 30 per cent face a high threat)	• Reduced areas of living corals • Reduced species diversity • Lower fish abundance	**Will continue to increase owing to:** • Population growth • Excess fishing capacity • Poor fisheries governance and management practices • International demand for fish • Lack of alternative income

[24] L. Burke, and others, *Reefs at Risk Revisited* (Washington, D.C., World Resources Institute, 2011), pp. 1-14.

Local threat	*Details*	*Percentage of affected coral reefs*	*Impacts*	*Trends*
Coastal development (for example, human settlements, industry, aquaculture, infrastructure)	• Coastal engineering • Run-off from land construction and clearing (sediment) • Dredging or land filling • Pollution: sewage discharge and toxic chemicals • Direct construction on reef expanses (airports, etc.) • Unsustainable tourism	**Approximately 25 per cent** (of which 10 per cent face a high threat)	• Increased algal cover/ overgrowth • Reduced coral growth	**Will continue to increase:** • As population growth in coastal areas continues to outpace overall population growth
Watershed-based pollution (for example, crop cultivation, intensive livestock farming, deforestation, mining)	• Erosion (sediment) • Nutrient fertilizer • Pesticides • Chemical toxins Run-off delivered by rivers to coastal waters	**More than 25 per cent** (of which 10 per cent face a high threat)	• Corals more susceptible to storms, diseases, infestations • Coral bleaching • "Dead zones"/ ecosystem collapse	**Will continue to increase owing to:** • Deforestation • Climate change-induced increase in precipitation • Increased fertilizer use (especially in Africa and South Asia) due to increased food demand of increasing global population
Marine-based pollution and damage from ships (for example, commercial, recreational and passenger vessels)	• Solid waste (including plastics), nutrients and toxins from oil and gas installations and shipping (for example, contaminated bilge water, fuel leakages) • Accidental transport of invasive species in ships' ballast water • Physical damage from ship groundings, anchors and oil spills	**Approximately 10 per cent** (of which 1 per cent face a high threat)	• Collapses and closures of fisheries	**Will continue to increase owing to:** • Increase in global oil demand • Increase in maritime shipping and cruise tourism • Increased threat by invasive species

Source: L. Burke and others, *Reefs at Risk Revisited* (Washington, D.C., World Resources Institute, 2011).

39. Apart from these local threats, serious global threats induced by climate change are endangering coral reefs (see table 2).

Table 2
Overview of main global threats and their impacts

Global threat	*Details*	*Percentage of affected coral reefs*	*Impacts*	*Trends/projections 2030-2050*
Ocean acidification	• Increased carbon dioxide (CO_2) emissions cause change in chemistry of ocean surface waters: build-up of carbonic acid	**More than 75 per cent** (in combination with local threats)	• Reduction of coral growth rates	**By 2030: less than 50 per cent** of global coral reefs expected to be in areas favourable for coral growth
			• Weakening of coral skeletons	**By 2050: only approximately 15 per cent** expected to be in areas favourable for coral growth
			• Support of coral bleaching	
			• Halt of coral growth	
			• Slow dissolution of coral reefs	
Ocean warming	• Rising sea temperatures	**More than 75 per cent** (in combination with local threats)	• (Mass) coral bleaching	**By 2030: 50 per cent** of global coral reefs expected to experience thermal stress and coral bleaching
			• Coral death	**By 2050: more than 95 per cent** expected to experience thermal stress and coral bleaching

Source: L. Burke and others, *Reefs at Risk Revisited* (Washington, D.C., World Resources Institute, 2011).

40. One severe global threat is ocean warming, which leads to "coral bleaching", a phenomenon whereby corals lose their symbiotic algae and, as a result, their colouration. If continued algae loss occurs, the corals eventually die. The most severe coral bleaching to date, which occurred in 1998, was caused by extreme El Niño-related weather events and resulted in the killing of about 16 per cent of global corals.[25] Since then, repeated coral bleaching has been recorded in most regions. In

[25] Ibid., pp. 21-37.

2010, a mass coral bleaching event affected the Greater Coral Triangle region. Recent studies predict the dominance of algae on the Great Barrier Reef and Caribbean reefs by 2030-2050, as they often colonize dead corals after coral bleaching events, thereby preventing the settlement of new corals.[26]

41. The other important global threat is ocean acidification caused by increasing carbon dioxide (CO_2) emissions. About 30 per cent of global CO_2 emissions are absorbed by oceans and form carbonic acid in reaction with water, which leads to reduced coral growth and calcification, weakened coral skeletons and even the slow dissolution of existing coral reefs.[27]

42. Since the beginning of the industrial revolution, oceans have become 30 per cent more acidic and predictions show that by 2050, ocean acidity could even increase by 150 per cent. This would give marine ecosystems a very small period of time for adaptation, as it would represent a rate of increase that is 100 times faster than that of any ocean acidity change experienced over the last 20 million years.[28]

43. The reduction of global CO_2 emissions is crucial and first steps have already been taken, inter alia, through the United Nations Framework Convention on Climate Change and the Kyoto Protocol to the United Nations Framework Convention on Climate Change.[29] In July 2011, mandatory measures to reduce emissions of greenhouse gases from international shipping were adopted at the sixty-second session of the Marine Environment Protection Committee of the International Maritime Organization. The regulations apply to all ships of 400 gross tonnage and above and are expected to enter into force on 1 January 2013.

44. Other potential threats are: (a) sea-level rise (mostly affecting Pacific small island developing States and atolls), which increases erosion, inundation and pollution of freshwater below islands; (b) increased frequency of high-intensity tropical storms (for example, hurricanes); (c) diseases (mainly in the Caribbean); and (d) plagues and infestations of crown-of-thorns starfish (natural predators of corals).

45. Slow-growing and fragile, cold-water coral reefs are also extremely vulnerable to physical damage caused by human activity. Bottom-fishing and deep-sea trolling have already caused and continue to cause severe impacts; and prospecting constitutes another potentially significant direct threat. In addition, the placement of underwater pipelines and cables endangers cold-water coral reefs.

46. Globally, 27 countries and territories are highly vulnerable to coral reef loss, of which 19 are small island developing States. Nine countries showed the lowest adaptive capacity, that is, the lowest ability to cope with the effects of coral reef degradation, and will need particular attention (see also figure).

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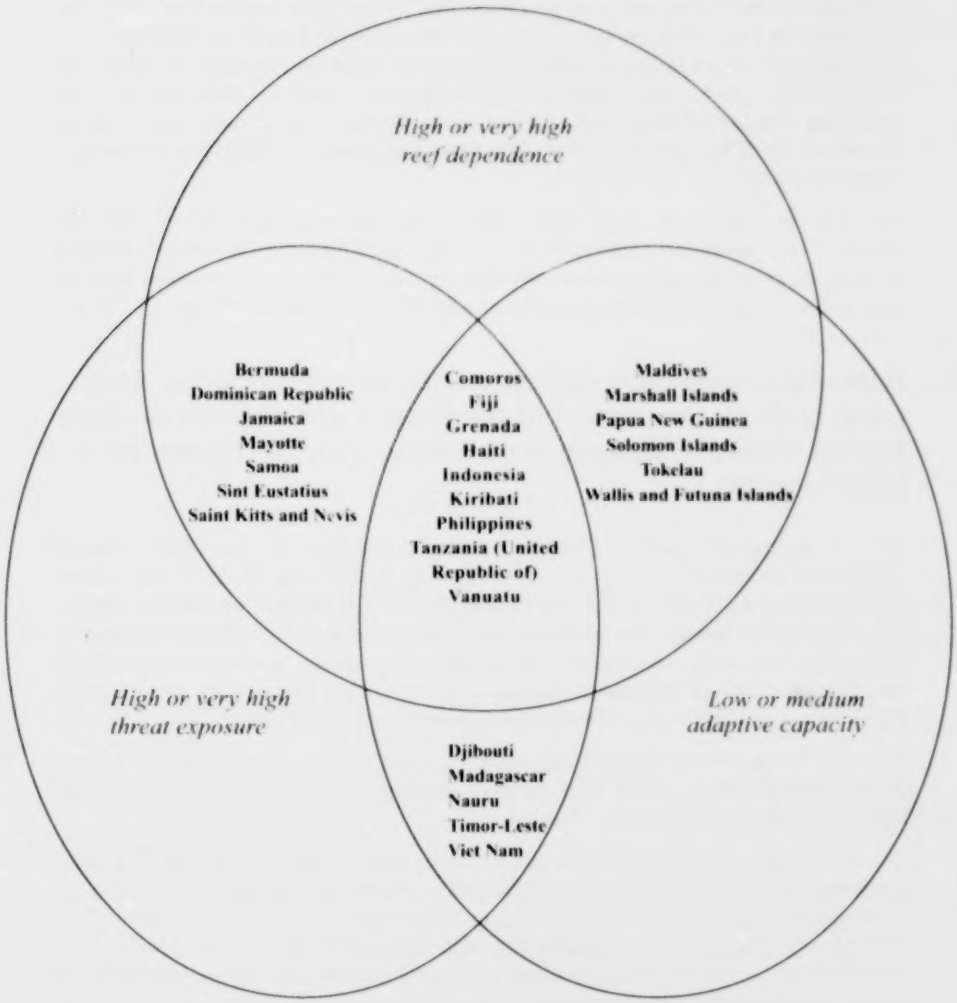
[26] S. Wooldridge and others, "Precursors for resilience in coral communities in a warming climate: a belief network approach" in *Marine Ecology Progress Series*, vol. 295 (2005), pp. 157-169.

[27] Burke and others, *Reefs at Risk Revisited*, pp. 21-37.

[28] Secretariat of the Convention on Biological Diversity, *Scientific Synthesis of the Impacts of Ocean Acidification on Marine Biodiversity*, Technical Series, No. 46 (Montreal, 2009), p. 9.

[29] United Nations, *Treaty Series*, vol. 2303, No. 30822.

Vulnerability drivers in 27 very highly vulnerable nations and areas



Source: Burke and others, *Reefs at Risk Revisited*.

47. Despite these threats, only about 27 per cent of global coral reefs are located inside marine protected areas, more than half of which are in Australia. In addition, according to a recent study of the World Resources Institute, only 6 per cent of global coral reefs are located in effectively managed marine protected areas.[30]

48. As a result, the negative impacts on coral reefs, mangroves and seagrass beds have been considerable. Global coverage of seagrass beds has declined by almost one third in 100 years and at least one quarter of the historical mangrove cover has been lost.

[30] Burke and others, *Reefs at Risk Revisited*, pp. 79-84.

49. According to ICRI, about one fifth of the global coral reefs have already been damaged beyond repair and it is predicted that 35 per cent will be lost within the next 20 to 40 years if no change occurs. The recent World Resources Institute report entitled *Reefs at Risk Revisited* notes that some 341 coral-reef species, including 200 reef-building corals, are currently threatened and predicts that, through the combined impacts of local and global threats, 90 per cent of coral reefs will be threatened by 2030 and all coral reefs will be threatened by 2050, if no protective measures are taken.

50. The protection of coral reefs, mangroves and seagrass beds is therefore crucial[31] and should be understood as requiring a broad range of actions directed towards sustainable management that directly and tangibly protect coral reefs as well as the rights and interests of reef-dependent populations and sectors.

IV. Economic, social and environmental benefits of protecting coral reefs, in the context of the themes and objectives of the United Nations Conference on Sustainable Development, to be held in 2012

51. At the second session of the Preparatory Committee for the United Nations Conference on Sustainable Development, held on 7 and 8 March 2011, many small island developing States called specifically for the Conference to provide support for sustainable ocean management and the protection of marine resources. Therefore, the topic of oceans, including coral reefs, is expected to figure prominently at the Conference. Furthermore, numerous preparatory meetings are expected to cover the topic of ocean management and protection.[32]

52. The Conference will focus on two themes: (a) a green economy in the context of sustainable development and poverty eradication; and (b) the institutional framework for sustainable development.

53. Although a precise definition has yet to be formulated, the concept of a green economy can be perceived as a lens focused primarily on the intersection between environment and economy and on seizing opportunities to advance economic and environmental goals simultaneously. The development of this green economy will rely heavily on the sustainable management of oceans and the conservation of marine resources, including coral reefs.

54. Many member States are now replacing the concept of a green economy with that of a "blue economy", which implies that development of a green economy needs to include a focus on benefits for coastal communities, especially in small island developing States and developing countries, which depend on the ocean and its marine resources for their existence.[33] This also highlights the importance of healthy oceans in the context of the three pillars of sustainable development, as they can generate significant economic, social, environmental benefits. The identification of coral reef-related benefits is therefore crucial.

[31] See also the Action Plan to Conserve the Coral Reef Ecosystem, established in 2010 in Japan.
[32] See http://www.uncsd2012.org; and A/CONF.216/PC/9.
[33] Australia/Pew Environment Group, "Keeping the green economy blue", concept paper (2011).

55. Coral reefs offer employment opportunities in fisheries and are an important nutrition source. No less than 30 million people in global coastal communities are entirely dependent on coral reefs as their primary sources of food production, income and livelihood.[34]

56. On average, people in coral-reef countries consume 29 kilograms (kg) of fish and seafood per year, with the consumption in Maldives being the highest. Main fish consumer countries are the Pacific small island developing States, with average fish consumption twice or four times higher than the global average. Nevertheless, a potential shortage of fish resources has been predicted for 2030 in the Pacific area.

57. In 2010, coral-reef fisheries generated global annual net benefits of US$ 6.8 billion. Effectively managed and environmentally sound fisheries can play an important role in supporting sustainable development and poverty eradication by providing food and employment opportunities. Fisheries are, in general, small-scale and artisanal enterprises and, as such, represent an attractive business option owing to low entry costs. The greatest number of coral-reef fisheries can be found in Asian countries (for example, Indonesia, Viet Nam and China), each of which has between 100,000 and more than 1 million coral-reef fishers.

58. According to the World Resources Institute, global annual net benefits from all coral reef-related goods and services totalled approximately US$ 29 billion in 2010, but the economic revenues derived from coral reefs vary considerably by site, depending, inter alia, on: (a) size of tourism markets, (b) importance and productivity of fisheries, (c) level of coastal development and (d) distance to major urban centres. In general, economic revenues originate mainly from coral-reef exports and tourism.

59. The export of coral-reef species and products represents an important source of income for many countries and includes, inter alia, live reef food fish, aquarium fish and tourist souvenirs. The greatest relative value of coral reef exports (mainly black pearls) can be found in French Polynesia,[35] where they constitute 62 per cent of the gross domestic product (GDP).

60. Coral-reef tourism provides considerable income for both developing and developed countries and generated global annual net benefits of US$ 11.5 billion in 2010. More than 96 coral-reef countries benefit from coral-reef tourism, which in 23 accounts for 15 per cent of their GDP. Revenue associated with coral-reef tourism comes from divers, snorkellers, recreational fishers and beach visitors, who pay for diving and fishing activities, hotels, restaurants and transportation and, in some cases, have to pay a "visitor fee" as well.

61. In addition, coral reefs offer shoreline protection, provide habitation for marine species and contribute to the formation of (tourist) beaches. In some small island developing States, coral reefs protect more than 80 per cent of the coastline. The global annual net benefits of shoreline protection amounted to US$ 10.7 billion in 2010. Apart from providing shoreline protection, coral reefs offer a habitat for 25 per cent of all marine species and create favourable conditions for other ecosystems (for example, mangroves and seagrass beds).[36]

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[34] C. Wilkinson, ed., "Status of coral reefs of the world: 2008" (Townsville, Australia, Global Coral Reef Monitoring Network and Reef and Rainforest Research Centre, 2008), pp. 5-19.

[35] See also, French Initiative for Coral Reefs (L'IFRECOR) website (http://www.ifrecor.fr/).

[36] Burke and others, *Reefs at Risk Revisited*, pp. 66-78.

62. Finally, coral reefs possess a significant cultural and spiritual value for many indigenous and other coastal communities.

63. While the dependence on coral reefs is high in many countries, with one half billion people greatly depending on coral reefs for food, livelihood and tourism,[37] small island developing States and coastal communities in developing countries are the most reef-dependent and their particular needs and concerns need to be given particular attention.

64. According to the World Resources Institute, coral-reef degradation caused by human activity and climate change could lead to significant economic losses in the Caribbean by 2015, namely US$ 95 million-US$ 140 million in diminished net revenues from fisheries and US$ 100 million-US$ 300 million in reduced income from tourism. In addition, annual losses of US$ 140 million-US$ 420 million from reduced coastal protection are predicted in the region within the next 50 years.

65. According to other studies, the climate change-induced deterioration of the Great Barrier Reef could cost Australia US$ 2.2 billion-US$ 5.3 billion over the next 19 years, while Indonesia could experience losses in the amount of US$ 1.9 billion over 20 years owing to the practice of overfishing.[38]

66. The second objective of the United Nations Conference on Sustainable Development is to strengthen the institutional framework for sustainable development. There are numerous local, regional, national and international targets, initiatives and processes relevant to coral reefs and dependent communities and sectors, many of which have firm anchoring in international agreements.

67. There is a need to reinforce political commitment with regard to existing international agreements and conventions such as the United Nations Convention on the Law of the Sea, which should include necessary actions for the protection and preservation of rare and fragile ecosystems, as well as the habitat of depleted, threatened or endangered species and other forms of marine life, including coral reefs.

68. The establishment, monitoring and enforcement of sustainable national marine managed and marine protected areas, and the building of (regional) networks, are important actions.[39]

69. Increasingly, countries are creating marine protected areas, even if coral reefs and their resources are associated with only a minor segment of their national economy, owing to their fundamental importance for those countries' coastal communities. One example is the Sudan, which participates in the activities of the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) geared towards the conservation of all aquatic resources, including coral reefs.

70. Effectively managed areas — for example, the Bonaire National Marine Park (box I) and the Gulf of Mannar Biosphere Reserve (box II) — attest to the fact that adequate measures can significantly reduce threats and generate important economic, social and environmental benefits.

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[37] Wilkinson, "Status of coral reefs of the world: 2008", pp. 5-19.

[38] Burke and others, *Reefs at Risk Revisited*, pp. 66-78.

[39] See, also, the ICRI East Asia Initiative on MPAs Networks (including Thailand).

Box 1
Benefits of the Bonaire Natural Marine Park

Background

Bonaire is located approximately 100 kilometres (km) north of the Bolivarian Republic of Venezuela in the Caribbean. The goal of the 2,700 hectare Bonaire National Marine Park, created in 1979, is "to protect and manage the island's natural, cultural and historical resources, while allowing ecologically sustainable use, for the benefit of future generations". Since 1991, the non-governmental organization Stichting Nationale Parken Bonaire (STINAPA Bonaire) has been managing the Park and is responsible for covering all its direct costs (including law enforcement, maintenance, education, research and monitoring).

Tourism, especially diving, provides the primary economic revenue to Bonaire. In 1994, 25,000 divers visited Bonaire, generating gross revenues of US$ 34 million. Currently, more than 28,000 divers visit Bonaire annually.

Measures: introduction of an admission fee ("nature fee")

In collaboration with all relevant stakeholders, a successful fee system was introduced, which entails the payment of an admission fee ("nature fee") for visitor entry into the Bonaire National Marine Park. In 1992, the imposed visitor fees yielded a total of over US$ 170,000, which was used to cover management costs, and coral reef protection and conservation measures.

Today, the Bonaire National Marine Park charged a one calendar year fee of $25 for scuba divers and $10 for non-scuba divers. Passes are also available at a cost of $10 for one day of scuba diving. Residents of Bonaire pay a reduced fee. Further revenues are generated from the renting of moorings, and the sale of tourist souvenirs, as well as from grants and donations.

Results

The Bonaire National Marine Park is financially self-sufficient.

Sources: STINAPA Bonaire, Bonaire National Marine Park Management Plan 2006; and http://www.stinapa.org.

71. According to Conservation International, incomes within marine protected areas are twice as high as those outside of marine protected areas; and marine protected areas can significantly improve livelihood opportunities, food security and environmental awareness.

72. Another successful approach in the area of coral reef protection and conservation entails the designation of particularly sensitive sea areas (PSSAs) by the International Maritime Organization (IMO). In order for an area to be designated a particularly sensitive sea area, it must demonstrate vulnerability to damage by international shipping activities, while possessing certain attributes from an

ecological, socio-economic and scientific perspective. Since 1990, IMO has designated 13 such areas, of which 8 are designed to protect coral reefs from the impacts of international shipping.[40]

Box II

Benefits of the Gulf of Mannar Biosphere Reserve project

Background

The Gulf of Mannar lies between the southern tip of India, the south-east coast of Tamil Nadu State and the north-west coast of Sri Lanka. In 1986, 21 inshore coral sand islands and their surrounding coral reefs, seagrass beds and mangrove habitats were designated as constituting the Gulf of Mannar National Park. In 1989, the entire Gulf of Mannar was designated a biosphere reserve, thereby representing the first marine conservation area of this kind in India and the South Asia region.

The Gulf of Mannar Biosphere Reserve project was first implemented in 2002 as a partnership between the Governments of India and Tamil Nadu, the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF). It aims to demonstrate the modalities for integrating biodiversity conservation, sustainable coastal zone management and the livelihoods of local communities, including indigenous and tribal populations. Its overall objective is to use a multisectoral and integrated systems approach to conserving the coastal biodiversity of the Gulf of Mannar.

Measures

Measures encompassed empowering local communities to manage the coastal ecosystems in a sustainable manner through strengthening of conservation efforts, support for alternative livelihood and implementation of awareness programmes.

Results

The Biosphere Reserve project has helped to transform the behaviours of local communities and fishermen. In turn, threats to marine resources have been significantly reduced, as evidenced by a 7.5 per cent increase in coral cover in the project area in the period from 2006 to 2010.

Sources: UNDP-GEF; and http://www.gombrt.org.

73. A wide range of actors from governmental and non-governmental organizations, initiatives, civil society and the private sector are involved in coral-reef protection and conservation. It is therefore crucial to ensure among their activities so as to avert duplication and optimize protection, recovery, conservation and adaptation measures.

[40] See, also, http://www.imo.org/OurWork/Environment/PollutionPrevention/PSSAs.

74. To engage all stakeholders, including the private sector, in the effective management and protection of coral reefs, economic incentives (for example, buyouts, conservation agreements and alternative livelihoods incentives) can be utilized as an attractive complement to more traditional measures, such as imposition of fines and penalties.[41]

75. Owing to the fact that cold-water corals exist beyond national jurisdiction and that coral reefs in general face not only local but also global threats, coral-reef protection has to be conducted not only at the local, regional and national levels but also at the international level, while still allowing local communities to exercise a strong ownership role in the management of coral reefs and their resources.

76. Regional fisheries management organizations have a key role to play in the conservation of marine species beyond national jurisdictions, as they are responsible for managing high-seas fish stocks and highly migratory species and can help to set catch and fishing effort limits, implement technical measures and oversee control obligations.

V. The role of national legislation in protecting coral reefs (including the importance of involving indigenous and local communities)

77. The role of national Governments and legislation in providing an enabling environment within which all stakeholders can meaningfully contribute to coral-reef protection is a pivotal one.[42]

78. In Brazil for example, nine coral-reef conservation units have been created, including municipal, State and federal units. The Government initiated the National System of Conservation Units, which brought together all existing instruments and regulations on the issue, to establish a framework for the creation, implementation, consolidation and management of these units. Through the integration of the various units, the federal Government is able to join State and local governments in providing better protection of the environment in Brazil.

79. Apart from focusing on coral-reef protection, national legislation should also include climate change adaptation measures, which could reduce the vulnerability of reef-dependent populations. Effective government institutions, regulations and enforcement mechanisms also play an important role in the establishment, monitoring and enforcement of sustainable marine managed areas and marine protected areas.

80. The application of payments for ecosystem services (PES) and other incentive-based mechanisms can support the implementation of protection and conservation measures.[43] Of particular importance for marine and coastal payments for ecosystem services, owing to the public-good nature of these resources, is the ability to identify "sellers" and "buyers" of the ecosystem service of interest. New

[41] See, also, E. Niesten and H. Gjertsen, "Economic incentives for marine conservation" (Arlington, Virginia, Science and Knowledge Division, Conservation International, 2010).

[42] See also the National Environmental Policy for Sustainable Development of Oceans and Coastal Areas and Islands of Colombia.

[43] See, also, http://ec.europa.eu/environment/nature/biodiversity/economics/.

institutional arrangements, such as community-based management, management concessions, and co-management schemes, can substitute use and access rights for ownership.

81. A notable example of payments for ecosystem services within the context of coral-reefs habitat is provided by the private and non-profit Chumbe Island Coral Park in the United Republic of Tanzania. The Government of Zanzibar established a protected area around the island and its fringing coral reef in 1994 and gave the management rights to the Park, which is responsible for implementing the Chumbe Island Coral Park management plans 1995-2016.

82. The success of national legislation often depends on the integration of all stakeholders in the decision-making process. The inclusion of indigenous and other local communities is therefore of the utmost importance, as those communities are often the ones most dependent on coral reefs for food and livelihood.

83. In this regard, the Government of Germany provides support to international initiatives and projects devoted to coral reefs in the context of integrated coastal area planning and management, that include indigenous and local communities, as well as partners at local, national, regional and international levels.

84. Through their national legislation, Australia and Palau, which could offer valuable lessons learned, have implemented successful measures designed to protect coral reefs while involving their indigenous and other local communities.

A. Protection of Australia's Great Barrier Reef

85. The Government of Australia had begun taking steps to protect its Great Barrier Reef when it created, in 1975, the Great Barrier Reef Marine Park Authority. Various protection and conservation measures have been put in place, including the establishment in 2004 of a new zoning plan which increased the proportion of the Marine Park that was highly protected by "no take zones" from less than 5 per cent to more than 33 per cent.[44]

86. The Great Barrier Reef Marine Park Authority is working in partnership with indigenous groups (Aboriginal and Torres Strait Islander) to develop formal legally recognized agreements, known as Traditional Use of Marine Resource Agreements, regarding the management of the Marine Park. The Agreements provide a practical and more flexible pathway towards expression by traditional owner groups of their rights and interests. The framework also provides collaborative opportunities for protecting cultural values and managing culturally important species in accordance with traditional lore, and for addressing other activities that impact Aboriginal and Torres Strait Islander people, such as illegal fishing and resource poaching.

87. Other important initiatives include the Reef Water Quality Protection Plan (Reef Plan) and Reef Rescue, a five-year programme (2008-2013) that aims to reduce the discharge of dissolved nutrients and chemicals from agricultural lands into the Great Barrier Reef lagoon by 25 per cent and the discharge of sediment and nutrients by 10 per cent.

[44] See, also, in this regard, Mexico's "National Law of the Waters" (approved in 2008), which specifically addresses the issue of the establishment of regulated zones, zones closed to fishing, and water reserves.

88. Australia's marine bioregional planning is designed to provide long-term protection of coral reefs and related ecosystems by improving the conservation, sustainable use, and management of marine resources and ecosystems (through marine managed areas and marine protected areas), including coral-reef habitats.

89. Implementation of General Assembly resolution 65/150 was initiated by the Government of Australia in close partnership with Pacific and other countries that may be directly affected by the degradation or loss of coral reefs and related ecosystems (for example, Nauru).

B. Marine protected areas in Palau

90. Palau is located approximately 800 km east of the Philippines. In 2003, the Government introduced the Protected Areas Network Act (PAN Act), which consisted in the establishment of a nationwide network of marine protected areas for the purpose of protecting biodiversity and natural resources. Of the 28 marine protected areas designated, 24 contain coral reefs.

91. The PAN Act has been supported by indigenous communities and at the highest level of national government, as it allows stakeholder involvement and flexibility in the planning process. It encompassed the establishment of the Protected Areas Network Fund (PANF), a non-governmental corporation, and the implementation of the imposition of an admission fee of US$ 15, collected from visitors upon their departure from the airport (Green fee). The Act inspired several Governments of the Federated States of Micronesia to establish the Micronesia Challenge, launched in 2006.

VI. The way forward: potential actions (consistent with international law) needed to protect coral reefs and related ecosystems, including proposals for coordinated and coherent action across the United Nations system

92. The protection of oceans and related ecosystems, including coral reefs, remains a main objective, as already envisaged in chapter 17 of Agenda 21, the Johannesburg Plan of Implementation and other international agreements.

93. Recent studies have shown that coral reefs have the capacity to recover even from very extreme damage if adequate protection, resilience-building, recovery and conservation measures, such as the Coral Reef Conservation Act (United States of America), are in place. In this context, the establishment of marine national parks and artificial coral reefs[45] has been successful in certain areas. Other positive trends are increased public awareness and a more active local engagement. Although strong recovery has been seen in parts of the Indian Ocean and Western Pacific, especially

[45] See, also, London Convention and Protocol/UNEP, *Guidelines for the Placement of Artificial Reefs* (London, IMO, 2009); and "Aquarius coral restoration and resilience experiments", in "Report on NOAA Coral Reef Conservation Program activities from 2007-2009: implementation of the National Coral Reef Action Strategy — report to Congress" (Washington, D.C., U.S. Department of Commerce, 2010), p. 84.

where direct stress is low, recovery has been stalled or weak in areas where there are substantial human pressures.

94. Further major efforts are therefore needed to diminish threats to coral reefs, particularly since appropriate actions can generate significant social, economic and environmental benefits.

95. As coordination mechanism on ocean and coastal issues UN-Oceans could play an expanded role in ensuring coordinated and coherent action across the United Nations system with respect to coral-reef protection. The creation of a specialized coral-reefs task force under its umbrella, comprising experts from its respective member organizations and including collaboration with national coral-reef task forces, could be considered.

96. Others recommendations for the protection of coral reefs for sustainable livelihoods and development at the global and local levels include:

(a) Minimize global CO_2 emissions, as they lead to ocean acidification and ocean warming, thus destroying coral reefs. Urgent progress towards multilateral agreements and action to reduce CO_2 and other greenhouse gases responsible for climate change is essential for both short- and longer-term efforts to reduce the impacts of climate change on coral-reef biodiversity and ecosystem services;

(b) Reduce unsustainable fishing practices such as overfishing and destructive fishing by (i) addressing their primary drivers (for example, food insecurity and poverty) through appropriate measures (for example, promotion of alternative livelihoods); (ii) establishing sustainable management policies, practices and guidelines[46] for fisheries; (iii) reducing excess fishing capacity; (iv) combating illegal, unreported and unregulated fishing, inter alia, through enhanced port State control and port State measures; (v) eliminating unsound fishing subsidies; (vi) prohibiting destructive fishing; and (vii) enforcing fishing regulations;

(c) Decrease watershed-based sedimentation and pollution through (i) improved agriculture, livestock and mining practices; (ii) the minimization and control of industrial, urban and mining run-off; and (iii) the protection and restoration of vegetation (especially mangroves and seagrass beds). These measures can be supported by applying payments for ecosystem services and other incentive-based mechanisms;

(d) Reduce marine-based pollution and damage by (i) controlling and regulating ballast discharge from ships through protocols and conventions; (ii) improving waste management at ports and marinas; (iii) designating safe shipping lanes and boating areas, and particularly sensitive sea areas; and (iv) efficiently managing offshore oil and gas activities (including through risk assessment and emergency plans);

(e) Improve coastal development through (i) ecosystem-based management; (ii) integrated coastal management; (iii) ocean zoning; (iv) linkage of terrestrial and marine protected areas; (v) prevention of unsound land development; (vi) restriction or limitation of coastal development within a specified distance from the coast (coastal development setbacks); (vii) adequate watershed management; and (viii) protection and recovery of critical coastal habitats and vegetation (including

[46] See, also, FAO "Technical Guidelines for Responsible Fisheries".

reforestation measures). Adequate coastal development is especially important in light of predicted population growth in coastal areas, which will continue to outpace overall population growth;

(f) Increase the coverage and effectiveness of marine managed and marine protected areas, including through the building of networks. The provision of sufficient financial resources, adequate equipment and trained staff through resource mobilization and capacity-building measures is crucial for guaranteeing their effective functioning;

(g) Reinforce regional and international collaboration in protection, resilience-building, recovery, adaptation and conservation measures through: (i) implementation of international agreements (for example, the United Nations Convention on the Law of the Sea and the International Convention for the Prevention of Pollution from Ships); (ii) establishment of transboundary collaboration and regional agreements; (iii) improved international regulations regarding trade of coral-reef products (particularly live coral-reef organisms); and (iv) enhanced regional and international climate change efforts;

(h) Promote sharing of successful approaches related to coral-reef protection, recovery, resilience-building, adaptation and conservation (best practices), and the transfer of (new) technologies;

(i) Implement sustainable tourism and promote ecotourism, as tourism is projected to continue to increase worldwide. The establishment of partnerships with the tourism industry and the use of incentives for coral-reef protection (for example, certification schemes, awards for eco-friendly hotels, and engagement of diving or tour operators) can play an important role in this regard;

(j) Encourage data collection and scientific research directed towards further exploration of the economic, social and environmental benefits of coral reefs in support of the development by decision makers of measures designed to protect coral reefs, reinforce their resilience and enhance the ability of coastal communities to adapt to environmental changes and coral-reef degradation. There is a particular need to carry out assessments on the status and trends in respect of cold-water coral-reef ecosystems. In addition, the extension and/or establishment of coral-reef monitoring systems (including socio-economic factors) should be supported;

(k) Promote education and communication on the subject of coral reefs so as to inform citizens, the private sector, government representatives and potential donors on current threats affecting coral reefs and the urgent need to protect them. Governments should encourage sustainable individual action of citizens by raising awareness of local laws and regulations and by promoting sustainable fishing practices, the purchase of sustainably caught seafood and the reduction of household waste and pollution;

(l) Ensure the involvement of all stakeholders, especially local and indigenous communities, in the development and implementation of national legislation, inter alia, through partnership programmes.

A more sustainable future for coral reefs is achievable. International cooperation on mapping out a vision and action plan designed to spur action on implementing policies needed to ensure the protection of coral reefs could be considered.

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Item 132 of the provisional agenda*
Review of the efficiency of the administrative and financial functioning of the United Nations

Activities of the Independent Audit Advisory Committee for the period from 1 August 2010 to 31 July 2011

Report of the Independent Audit Advisory Committee

Summary

The present report covers the period from 1 August 2010 to 31 July 2011. During the period, the Independent Audit Advisory Committee (the Committee) held four sessions, all of which were presided over by David M. Walker (United States of America). Mr. Walker was re-elected to continue as Chair for the 2011 calendar year. Vijayendra Kaul (India) served as Vice-Chair until the end of his term in December 2010, after which, John Muwanga (Uganda) succeeded him as Vice-Chair. All the members of the Committee, including, where applicable, Mr. Kaul, who did not seek re-election, and Vinod Rai (India), who succeeded him as the representative from the Asia Group, attended each of the four sessions during the reporting period.

Section II of the report contains an overview of the activities of the Committee, the status of its recommendations and its plans for 2011. Section III sets out the detailed comments of the Committee.

* A/66/150.

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I. Introduction

1. The General Assembly, by its resolution 60/248, established the Independent Audit Advisory Committee as a subsidiary body to serve in an expert advisory capacity and to assist it in fulfilling its oversight responsibilities. In accordance with its terms of reference (see General Assembly resolution 61/275, annex), the Committee is authorized to hold up to four sessions per year. The Committee has held 15 sessions since its inception in January 2008.

2. In accordance with its terms of reference, the Committee submits an annual report to the General Assembly, containing a summary of its activities and related advice. The present, fourth annual report covers the period from 1 August 2010 to 31 July 2011.

3. The observations, comments and recommendations of the Committee on the effectiveness, efficiency and impact of the oversight activities of the Office of Internal Oversight Services (OIOS), which were previously included as an annex to the Committee's report, have been incorporated in the body of the present report under section III.C. In its resolution 65/250, the General Assembly decided to defer consideration of the issues contained in annex III of the Committee's report (A/65/329) to its sixty-sixth session and invited the Committee to provide any further advice it deemed necessary. While reiterating its previous recommendation, the Committee has decided to include that information in section III.B of the present report.

II. Activities of the Independent Audit Advisory Committee

A. Overview of the sessions of the Committee

4. During the reporting period, the Committee held four sessions: on 15 and 16 December 2010 (twelfth session); from 15 to 17 February 2011 (thirteenth session); on 12 and 13 April 2011 (fourteenth session); and from 11 to 13 July 2011 (fifteenth session). All of the sessions were held at United Nations Headquarters.

5. The Committee functions under its adopted rules of procedure, as contained in the annex to its first annual report (A/63/328). To date, all members of the Committee have a 100 per cent attendance rate at its sessions. All of the decisions of the Committee have been unanimous; however, its rules of procedure make provision for members to record their dissent with decisions taken by the majority.

6. At its twelfth session, held in December 2010, the members re-elected David M. Walker (United States of America) as Chair and elected John Muvanga (Uganda) as Vice-Chair, for 2011. Additional information about the Committee can be found on its website in all the official languages of the United Nations (see http://www.un.org/ga/iaac/index.shtml).

7. Since its establishment, the Committee has submitted 11 reports to the General Assembly, 3 of which were submitted during the current reporting period. These include two reports to the General Assembly, through the Advisory Committee on Administrative and Budgetary Questions, on the proposed programme budget of OIOS for the biennium 2012-2013 (A/66/85) and on the budget of OIOS under the support account for peacekeeping operations for the period from 1 July 2011 to

30 June 2012 (A/65/734). The Committee also issued its annual report to the General Assembly for the period 1 August 2009 to 31 July 2010 (A/65/329).

B. Status of the recommendations of the Committee

8. As at 30 June 2011, the Committee had made a total of 82 recommendations in its reports. Ten of the recommendations contained in the Committee's previous reports (A/65/734 and A/66/85) are before the General Assembly. The remaining 72 recommendations include 15 recommendations that the General Assembly has deferred to subsequent sessions, 43 recommendations that have been implemented and 14 recommendations that are in the process of being implemented.

9. Most of the deferred recommendations are to be considered by the General Assembly no later than the main part of its sixty-sixth session (see resolutions 64/263, para. 6, and 65/250, para. 9). The first set of the recommendations pertains to internal oversight and covers the following issues: definition of the operational independence of OIOS; definition of impairment to OIOS independence; annual assurance on OIOS independence; development of an internal oversight document that contains the definitions and terms; protocol for the distribution of OIOS reports; and selection of staff for appointment and promotion. The second set pertains to resolution 65/250 on accountability, and is addressed in detail in section III.B of the present report. **The Independent Audit Advisory Committee reiterates these recommendations and believes that it is important for the General Assembly to consider the recommendations at its sixty-sixth session.**

10. Although it meets only four times per year for two to three days at each session, the Committee has made significant achievements to date, particularly in relation to the operations of OIOS. The Committee follows up on the implementation of its recommendations as a standard agenda item at each session and looks forward to seeing the full effect of the actions taken by OIOS and by management. Some of the significant recommendations made by the Committee during the reporting period relate to:

(a) The need for OIOS and management to coordinate the risk categorization process so as to align the OIOS risk-based audit planning process with the enterprise risk management framework that the administration has embarked on in order to avoid confusion among key stakeholders;

(b) The proposal of the Secretary-General to provide support to the Under-Secretary-General in the overall departmental strategy, in intradepartmental cooperation initiatives, in the monitoring of divisional activities, and in the operational and administrative responsibilities of the Office;

(c) The reiterated recommendation calling for urgent action to fill vacant posts in OIOS, especially at the level of division heads, in order to ensure that the effectiveness and efficiency of OIOS in the performance of its mandated functions is not compromised;

(d) While the Committee acknowledged that the audit of key controls embarked upon by OIOS was a step in the right direction, the reiterated recommendation for OIOS to establish a systematic assessment of residual risk in order to better assess the overall level of resources allocated to OIOS and to enhance the determination of the audit assignments within the available level of resources;

(e) The reiterated recommendation that all OIOS divisions, including the Internal Audit Division, show the value of the services delivered to the Organization by reporting on the achievement of results;

(f) The need to revisit the issue of a funding arrangement for OIOS, especially in connection with operations and entities funded by extrabudgetary sources;

(g) Recommendation that the Committee would not object to a reasonable level of budget cuts involving OIOS should Member States decide to take such a position, while reiterating the Committee's position that the Under-Secretary-General for Internal Oversight Services should have the flexibility to decide how any overall cuts would be achieved.

C. Overview of the plans of the Committee for 2012

11. The Committee undertook its responsibilities, as set out in its terms of reference, in accordance with the scheduling of the sessions of the General Assembly and of the Advisory Committee on Administrative and Budgetary Questions. The Committee will continue to schedule its sessions and activities to ensure coordinated interaction with intergovernmental bodies and timely availability of its reports. In a preliminary review of its workplan, the Committee identified several key areas that will be the focus for each of its four sessions in fiscal year 2012 (see table).

Table
Workplan of the Committee for 2012

Sessions	*Key focus area*	*Intergovernmental consideration of the report of the Committee*
Seventeenth	Proposed budget for OIOS under the support account for peacekeeping operations for the period from 1 July 2012 to 30 June 2013	Advisory Committee on Administrative and Budgetary Questions, first quarter 2012
	Coordination and cooperation among oversight bodies	
Eighteenth	Status of implementation of oversight bodies recommendations	General Assembly
	Risk management and internal controls	
	Coordination and cooperation among oversight bodies	
Nineteenth	Operational implications of issues and trends in the financial statements and reports of the Board of Auditors	General Assembly, main part of the sixty-sixth session
	Cooperation among United Nations oversight bodies	

Sessions	*Key focus area*	*Intergovernmental consideration of the report of the Committee*
	Preparation of the annual report of the Committee	
Twentieth	Results of OIOS risk assessments	
	Workplans of OIOS for 2013	
	Review of OIOS budget for the support account for peacekeeping operations	Advisory Committee on Administrative and Budgetary Questions, first quarter 2013
	Review of the enterprise risk management and internal control framework in the Organization	
	Election of the Chair and Vice-Chair for 2013	

12. In the discussion on planning for 2012, the Committee identified the following relevant events:

(a) Consideration by the General Assembly of recommendations concerning OIOS made by the Committee in its annual report (A/64/288, annex) and deferred by the Assembly to no later than the main part of its sixty-sixth session (resolution 64/263, para. 6);

(b) Consideration by the General Assembly of recommendations concerning accountability made by the Committee in its annual report (A/65/329, annex III) and deferred by the Assembly to no later than its sixty-sixth session (resolution 65/250, Part II, para. 9);

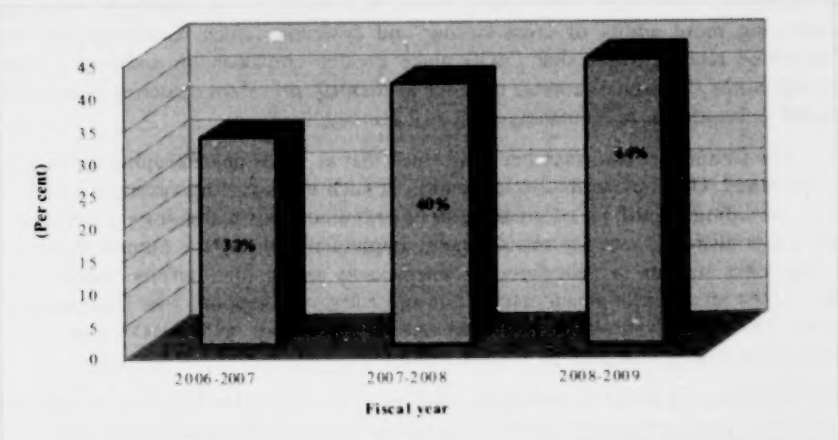
(c) Since the terms of office of two members will expire on 31 December 2011, it will be necessary for the General Assembly, at its sixty-sixth session, to appoint two persons to fill the resulting vacancies. The persons so appointed will serve for a period of three years, beginning on 1 January 2012.

III. Detailed comments of the Committee

A. Status of the recommendations of United Nations oversight bodies

13. During the reporting period, the Committee reviewed the status of implementation by management of the recommendations of United Nations oversight bodies, as a standard practice. According to the report of the Board of Auditors on United Nations peacekeeping operations for the 12-month period from 1 July 2009 to 30 June 2010 (A/65/5 (Vol. II), chap. II), the rate of implementation of the recommendations made for the financial period ended 30 June 2009, in respect of peacekeeping operations, was 44 per cent. The Board noted that there was an improvement in the rate of implementation of recommendations when compared with the previous years, as shown in figure I below.

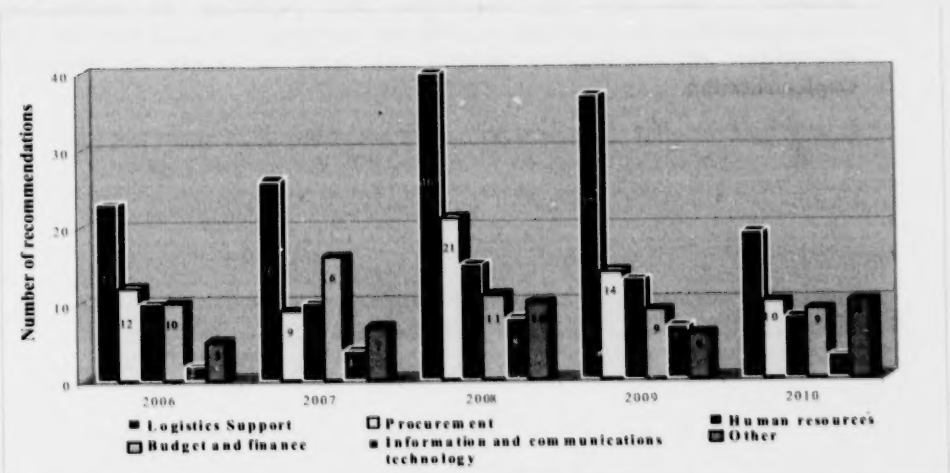
Figure I
Rate of implementation of peacekeeping operations



14. **While acknowledging the improvement in the implementation rate, and noting that most of the recommendations of the Board of Auditors on peacekeeping operations are fully implemented after three years, the Independent Audit Advisory Committee still believes that there is room for improvement and that the timely implementation of recommendations is essential to increase the level of accountability.**

15. The Committee was also provided with a trend analysis of the thrust areas addressed by the various recommendations contained in the Board of Auditors reports on peacekeeping operations. As figure II indicates, over the past five years, logistics support has had the highest number of recommendations. High numbers of recommendations in one thrust area could be an indicator of systemic issues that need to be addressed or of areas of high activity.

Figure II
Thrust areas addressed in Board of Auditors recommendations



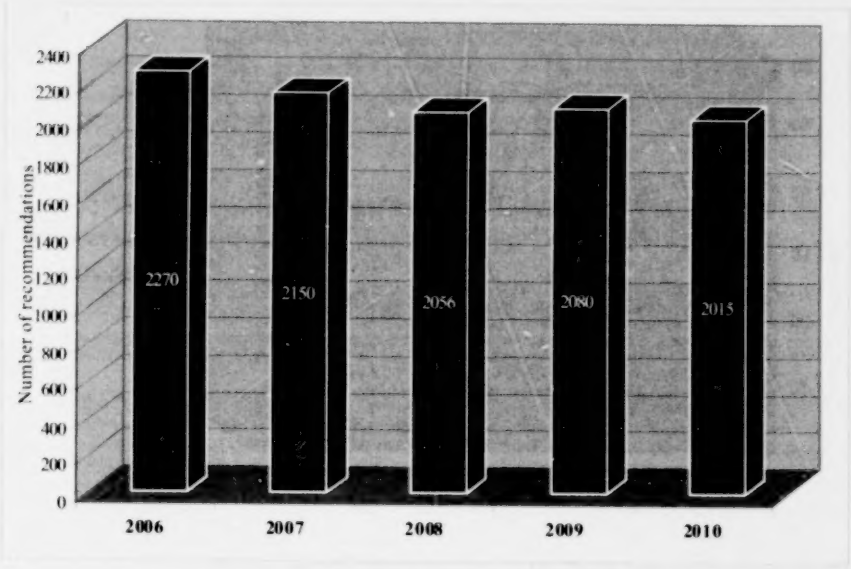
16. Within the context of cooperation and coordination among the oversight bodies, the Independent Audit Advisory Committee noted in paragraph 8 of annex I of its report (A/65/329), that OIOS could add value to its oversight work by conducting more audits of cross-cutting and systemic issues. Consequently, the Committee recommended that OIOS place greater emphasis on audits of cross-cutting issues (horizontal audits) in order to identify prevalent systemic issues that needed to be addressed by management as a priority.

17. The Committee has since been informed that as far as peacekeeping operations is concerned, OIOS plans to conduct audits of such cross-cutting/systemic issues in 2011, including regarding information and communications technology governance; Internet publishing; security management; implementation of the human resources management reform in peacekeeping operations; and a civil affairs programme. Most of the areas under consideration fall under logistics support. **The Independent Audit Advisory Committee will continue to follow up with OIOS and looks forward to timely completion of such audits.**

18. With respect to the recommendations made by OIOS, the Committee received a briefing from management on the trends associated with the implementation of the recommendations. The Committee was informed by management that after a period of three years most of the outstanding recommendations of OIOS had been fully implemented, and the critical or high-risk recommendations that remained unimplemented continued to be brought to the attention of the Management Committee. **The Independent Audit Advisory Committee wishes to take this opportunity to recognize the important role that the Management Committee is playing in strengthening accountability in the Secretariat and reiterates that the Management Committee should continue to meet with the oversight bodies including the Independent Audit Advisory Committee, at least once a year.**

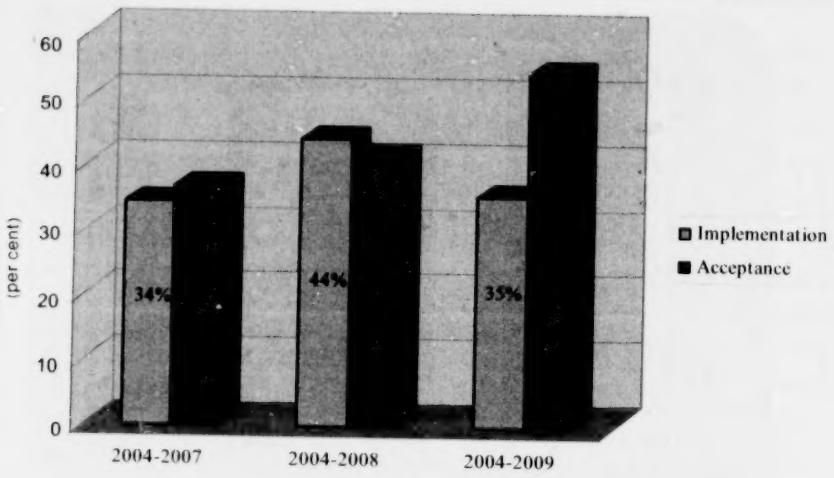
19. With respect to the number of recommendations issued annually by OIOS, the Committee was informed by management that the number had almost remained constant, declining slightly from 2,270 in 2006 to 2,015 in 2010 (see figure III below). In paragraph 35 of its annual report (A/64/288), the Committee, without making judgement on the number of recommendations, encouraged OIOS to concentrate on quality and value added, rather than on quantity. **Consequently, the Independent Audit Advisory Committee has been informed that OIOS has outlined a new plan for monitoring and reporting on outstanding recommendations that will help to allay the concerns expressed thus far. The Committee will continue to monitor this issue to ensure its successful implementation.**

Figure III
Total number of Office of Internal Oversight Services recommendations per year



20. The Committee also received an update on the status of implementation of the recommendations made by the Joint Inspection Unit. According to the annual report of the Unit, the aggregate acceptance rate of its recommendations by the Secretariat was 54.4 per cent for the 2004-2009 period, compared with 41.3 per cent for the 2004-2008 period. The aggregate implementation rate was 35.3 per cent for the 2004-2009 period, compared with 44 per cent for the 2004-2008 period. The Committee was informed of the challenges the Secretariat faces in implementing the Joint Inspection Unit recommendations, including the fact that some of the recommendations are addressed to the General Assembly and that management has no control over them. Figure IV shows the aggregate implementation/acceptance rates by the Secretariat as reported by the Joint Inspection Unit in its annual reports. **The Independent Audit Advisory Committee notes the improvement in the acceptance rates and, while acknowledging the challenges faced by management, encourages the Secretariat to enhance its implementation rates of the Joint Inspection Unit recommendations addressed to the Secretariat.**

Figure IV
Status of implementation/acceptance of Joint Inspection Unit recommendations



B. Risk management and internal control framework

21. Subparagraphs 2 (f) and (g) of the terms of reference of the Committee (see General Assembly resolution 61/275, annex) mandate the Committee with the responsibility to advise the General Assembly on the quality and overall effectiveness of risk management procedures and on deficiencies in the internal control framework of the United Nations.

22. In annex III of its report (A/65/329), the Committee included comments on the implementation of General Assembly resolution 64/259 entitled "Towards an accountability system in the United Nations Secretariat". By its resolution 65/250, on the report on the Office of Internal Oversight Services on its activities, the Assembly decided to defer consideration of those recommendations to the main part of its sixty-sixth session. At the same time, the Assembly invited the Committee to provide further advice on relevant issues under its terms of reference, as it deemed necessary.

23. With respect to the accountability system, the Committee was briefed on the progress management had so far achieved in implementing resolution 64/259. **While noting these achievements, including the finalization of the accountability website, the Independent Audit Advisory Committee decided to reiterate all the recommendations contained in annex III of its report (A/65/329), namely, that:**

- **The Secretary-General integrate enterprise risk management in the programme planning process (para. 7).**
- **The Secretary-General be responsible to design, monitor and evaluate the system of accountability (para. 8).**
- **The General Assembly consider expanding the definition of accountability to include adding value and managing risks, and that risk should be**

defined to include financial, operational, reputation and human resources risks (para. 9).

- **The definition of accountability include a reference to the obligation of contractors and consultants (para. 10).**
- **The Secretariat develop a clearly defined and well-documented implementation plan (para. 12).**

24. In its first annual report (A/63/328), the Committee made several recommendations in respect of the first accountability report, including (a) the phased implementation of enterprise risk management in a few selected organizational units; (b) the need for an executive-level document that describes in clear terms for senior management what the benefits are to adopting enterprise risk management and an internal control framework, and for the Organization's implementation plan to include a structured training programme and a communication strategy targeting all staff; (c) the assignment of project oversight to a high-level committee, such as the existing Management Committee, in order to demonstrate senior management's commitment to its implementation; and (d) the establishment of a Chief Risk Officer.

25. Following discussions with management, the Committee was informed that enterprise risk management remained a significant challenge for the Secretariat. The Committee was also informed that the Secretariat had established a focal point in the Office of the Under-Secretary-General for Management, to lay the foundation for future implementation of an enterprise risk management framework. Management further informed the Committee that a policy framework for enterprise risk management had been endorsed by the Management Committee and would be presented to the General Assembly at its sixty-sixth session. The Committee was also informed that the Management Committee would also serve as the Committee for issues related to enterprise risk management.

26. **The Independent Audit Advisory Committee commends the steps that management is taking to implement enterprise risk management, and believes that, given the size and complexity of the Organization, enterprise risk management should be considered one of the highest priorities of the Organization and should continue to enlist the support of senior leadership to ensure successful implementation.**

27. **The Independent Audit Advisory Committee also noted that one of the four recommendations enumerated in paragraph 24 above (for a Chief Risk Officer) had yet to be implemented. The Committee wishes to reiterate the importance of such a post to the successful implementation of enterprise risk management Secretariat-wide. The Chief Risk Officer should have appropriate authority and adequate resources to achieve his/her related responsibilities.**

C. Effectiveness, efficiency and impact of the audit activities and other functions of the Office of Internal Oversight Services

28. The terms of reference provide for the Independent Audit Advisory Committee to advise the General Assembly on aspects of internal oversight (see resolution 61/275, annex, paras. 2 (c)-(e)). In undertaking its mandate, the Committee has maintained its standard practice of meeting with the Under-Secretary-General for

Internal Oversight Services and other senior OIOS officials during its sessions. The discussions have focused on OIOS workplan execution, significant findings reported by OIOS, operational constraints (if any), post incumbency and the status of implementation by management of OIOS recommendations, including the top 10 to 20 recommendations that had not been implemented by management, strengthening investigations and funding arrangements.

Workplan and budget of the Office of Internal Oversight Services for 2011-2012

29. The responsibilities of the Committee with respect to OIOS are set out in the terms of reference and include the examination by the Committee of the workplans of OIOS, taking into account the workplans of the other oversight bodies and advising the General Assembly thereon.

30. The Committee reported its observations and recommendations with regard to OIOS workplans in its report on the budget of OIOS under the support account for peacekeeping operations for the period from 1 July 2011 to 30 June 2012 (A/65/734) and in its report on the proposed programme budget for OIOS for the biennium 2012-2013 (A/66/85). In paragraph 25 of its report on the OIOS budget under the support account for peacekeeping operations for the period from 1 July 2010 to 30 June 2011 (A/64/652), the Committee recommended, inter alia, that OIOS undertake a review of its planning assumptions and estimates, in particular as they related to the available audit days (see also paras. 19-24). In its report (A/65/734, para. 14), the Committee, was pleased to note that OIOS had put the recommendation into effect, contributing to a reduction in the resource requirement for the Internal Audit Division.

31. The Committee also reiterated its previous recommendation regarding residual risk and was encouraged to note that OIOS had included in its workplan for the regular budget, the audit of key controls that management has put in place to mitigate the inherent risks. **The Independent Audit Advisory Committee looks forward to the implementation of the reiterated recommendations in this regard, especially those related to the systematic assessment of the residual risk as the basis for determining the overall level of resources allocated to OIOS.**

32. The Committee continued to monitor implementation of the workplans of the divisions in OIOS and the timelines of reports. In addressing OIOS delays in the issuance of its reports, the Committee stressed the importance of finalizing reports in a timely manner since the value of oversight work diminished when reports took too long to be completed.

33. With respect to the regular budget of OIOS, the Committee, in its report (A/66/85), noted its support for the Deputy position requested by the Secretary-General. In the Committee's view, the level of the position is important, given the proposed role and the operational protocols within the United Nations. The Committee therefore believes that the level of the position should reflect its duties and responsibilities and the level of similar positions in other United Nations organizational units.

Vacant posts in the Office of Internal Oversight Services

34. In its previous reports to the General Assembly, the Committee reported on the high number of vacancies in OIOS. Similarly, in its reports on United Nations

peacekeeping operations and accounts (A/64/5 (Vol. II) and A/65/5 (Vol. II)), the Board of Auditors commented on the vacancy rate of resident auditors and investigators in peacekeeping missions and investigation hubs.

35. OIOS informed the Committee that as at 31 May 2011, the overall vacancy rate in OIOS was 21.5 per cent, which is an improvement over the 23.2 per cent rate reported by the Committee in its previous annual report (A/65/329). The highest vacancy rates continue to be in the Investigations Division (25.5 per cent) and in the Internal Audit Division (22.4 per cent). In those two divisions, the vacancies related mainly to posts funded from the peacekeeping support account and extrabudgetary funds. For example, in the Investigations Division, as at 31 May 2011, 32.7 per cent of posts funded from the peacekeeping budget and 25.0 per cent of posts funded from the extrabudgetary account were vacant. Similarly, the vacancy rate for posts in the Internal Audit Division was 21.1 per cent (peacekeeping budget) and 30.6 per cent (extrabudgetary account), respectively.

36. In its report (A/65/329), the Committee noted with concern that two posts at the Director level, namely, the Director of the Investigations Division and the Director of the Inspections and Evaluation Division, had not been filled. The Committee has since been informed that the two Directors have been hired and will be on board in August 2011. This will mean that all division head positions will be filled for the first time in many years.

37. In its resolutions 64/263 and 65/250, the General Assembly endorsed the comments made previously by the Committee on the filling of vacancies in OIOS and requested the Secretary-General to ensure the full implementation of the relevant comments of the Committee. OIOS advised the Committee that it was taking steps to recruit staff and to lower the vacancy rates. Accordingly, the Committee was informed that the vacancy rate after August 2011 would be even lower after the several recruitment actions had been finalized. **This effort notwithstanding, the Independent Audit Advisory Committee is concerned that the high vacancy rate in the Investigations Division, especially in the hubs, could affect the result of the pilot project on investigations, and requests that OIOS takes into account such effects when assessing the relative utility of endorsing one of the options. The Committee will continue to monitor steps taken by OIOS to expedite the filling of vacant posts, especially the resident auditor and investigation positions.**

Quality assessments of the Internal Audit Division of the Office of Internal Oversight Services

38. In 2011, the Internal Audit Division of the Office of Internal Oversight Services initiated a client satisfaction survey covering various aspects of its oversight function and shared the results of the surveys with the Committee. The client survey questionnaire, which related to year 2010, was conducted between February and March 2011 and covered overall feedback on the work of the Division; ratings of the internal audit staff; rating of the scope of the audit; and rating on the audit process and report.

39. The Committee was informed that the survey result showed that 62.5 per cent of the clients agreed that audits contributed to the identification and management of key risks; the cost effectiveness of internal controls; the achievement of operational objectives; and an effective governance process. Based on the feedback from the

client survey, the Committee was informed that OIOS planned to meet with the various clients to discuss concerns raised in such areas as knowledge of a client's mandates, programmes and processes; timeliness of reporting; and accuracy of findings.

40. **The Independent Audit Advisory Committee continues to believe that the surveys initiated by OIOS are steps in the right direction since they provide an independent basis for OIOS to be able to assess the quality and value of its work, to identify the positive feedback from the respondents and to address areas in which corrective action was required. The Committee also believes that OIOS should strive to achieve a higher rate of satisfaction than the 62.5 per cent reported in 2011. The Committee also reaffirms its prior recommendation that OIOS supplement the client survey with specific outcome-based measurements that demonstrate the value that OIOS adds to the United Nations.**

41. According to the Institute of Internal Auditors Standard 1312, on external assessment, internal audit activities are to undergo an external assessment at least once every five years, starting 1 January 2002. During the reporting period, the Committee was informed that OIOS had engaged the Institute of Internal Auditors to undertake an external quality assessment. The objectives of the review are to assess the conformity of Internal Audit Division practices and processes with its audit manual and with the standards of the Institute of Internal Auditors, to assess the efficiency and effectiveness of the Division in meeting the needs of stakeholders and to make recommendations to improve and streamline the internal audit process.

42. **The Independent Audit Advisory Committee looks forward to receiving the result of that assessment and encourages OIOS to extend such reviews to investigation and inspection and evaluation divisions.**

Strengthening investigations

43. In its report (A/65/329), the Committee recalled that, in paragraph 18 of General Assembly resolution 62/247, on strengthening investigations, the Assembly had requested the Secretary-General to prepare for its consideration and approval, in close cooperation with the Office of Internal Oversight Services, a report providing detailed information on terms of reference with regard to the proposed comprehensive review of investigations in the United Nations.

44. The Independent Audit Advisory Committee understood that, in response to the request of the General Assembly, a task force, chaired by the Deputy Secretary-General, had been established. The objective of the task force was to review the types of investigations being conducted in the Secretariat; make suggestions on the need to improve systems; examine steps that would be required to implement change; and prepare the terms of reference that had been requested by the Assembly in its resolution 62/247. The task force was supported by a working group that was tasked to conduct the review and report back to the task force. As a result of the review, the Committee has been informed that OIOS has been conducting an assessment of the workload that would result if OIOS were to assume the responsibility to conduct all investigations in the United Nations and an assessment of the amount of resources that would be entailed, before taking a final position in that respect. **The Independent Audit Advisory Committee will continue to monitor developments in this area and looks forward to receiving an update on**

the key steps being taken to address the request of the Assembly. The Committee believes that there is a need for a more coordinated and integrated approach to investigation activities within the United Nations.

Inspection and evaluation function

45. In its report (A/66/85), the Committee reported that a decision to reduce the evaluation cycle from a period of 11 to 13 years to a period of 8 years had been approved by the Committee for Programme and Coordination in the strategic framework for the period 2012-2013 and by the General Assembly in its resolution 65/244. It was also noted that in the view of OIOS, an eight-year cycle of programme evaluation covering all 27 programmes was necessary in order to provide the Secretary-General and the Assembly with comprehensive programme-level evaluations on each of the programmes within a reasonable time frame.

46. Included among the 27 programmes are those funded predominantly from extrabudgetary sources. According to the workplan that was presented to the Committee for the biennium 2012/2013, all but one of the five programmes under consideration for evaluation were funded 95 per cent or more from extrabudgetary sources. The Committee was further informed that all the inspection and evaluation activities are currently being funded from either the regular budget or the support account. **This led the Independent Audit Advisory Committee to recommend in its report (A/66/85) that the issue of funding arrangements for OIOS be revisited in the light of the report that had been requested of the Secretary-General pursuant to paragraph 3, part III, of General Assembly resolution 61/275. The Committee would like to reiterate this recommendation.**

D. Financial reporting

47. Under subparagraphs 2 (h) and (i) of the terms of reference, the Independent Audit Advisory Committee has the responsibility to advise the General Assembly on the operational implications of the issues and trends apparent in the financial statements of the Organization and the reports of the Board of Auditors, and on the appropriateness of accounting policies and disclosure practices; and to assess changes and risks in those policies.

48. During the reporting period, the Independent Audit Advisory Committee engaged in discussions with the Board of Auditors and officials of the Office of Programme Planning, Budget and Accounts on a number of issues relating to financial reporting. The issues discussed included:

(a) The status of implementation of International Public Sector Accounting Standards (IPSAS) in the United Nations, including recent progress, challenges faced, the revised timeline for the implementation of IPSAS and the synchronization of the IPSAS timeline and strategy with that of the enterprise resource planning system project timeline;

(b) Consideration of the growth in assessed and voluntary contributions and other trends in the financial statements.

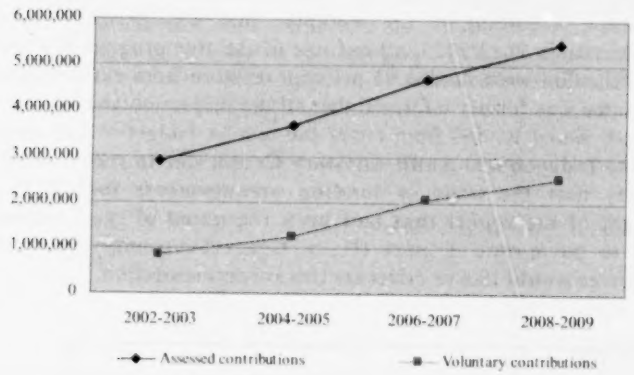
49. With respect to the growth in assessed and voluntary contributions, the Committee looked at the trends based on the reports of the Board of Auditors on the United Nations from 2002 to 2009 (see figure V). The Committee noted that the

assessed contributions grew at a rate of 27 per cent in 2004-2005, 28 per cent in 2006-2007 and 17 per cent in 2008-2009. On the other hand, voluntary contributions grew by 48 per cent, 67 per cent, and 22 per cent during the same periods. The Committee also noted that as a percentage of total income, voluntary contributions had grown from 18 per cent in 2002-2003 to 26 per cent in 2008-2009. The Committee was informed that the Panel of External Auditors of the United Nations had also previously raised its concern on the matter in a letter to the Secretary-General.

Figure V

Trends in assessed and voluntary contributions[a]

(Thousands of United States dollars)



[a] As set out in the reports of the Board of Auditors on the United Nations (A/59/5 (Vol. I), chap. II; A/61/5 (Vol. I), chap. II; A/63/5 (Vol. I), chap. II; and A/65/5 (Vol. I), chap. II).

50. **As far as the reports of the Board of Auditors on the United Nations are concerned, the Independent Audit Advisory Committee believes that relying on voluntary contributions for one quarter of its financing exposes the Organization in general and the respective programmes in particular to risks which the Committee believes the Administration should articulate and mitigate. Furthermore, the Committee expresses concern regarding the sustainability of such significant overall contribution increases given the fiscal challenges facing many Member States.**

E. Coordination among United Nations oversight bodies

General consideration

51. During the reporting period, in addition to its regularly scheduled meetings with OIOS, the Committee also met with other oversight bodies, including the Joint Inspection Unit, the Audit Advisory Committee of the United Nations Development Programme and the Board of Auditors of the United Nations. Both the Independent Audit Advisory Committee and the Audit Advisory Committee of the United

Nations Development Programme welcomed the opportunity to discuss issues of common interest. In separate meetings with the Board of Auditors, the Joint Inspection Unit and OIOS, the Committee took note of the positive relationship fostered through the tripartite coordination meetings of the oversight bodies and the sharing of workplans to avoid duplication.

52. During the its fifteenth session, the Committee and the Board of Auditors continued to exchange experiences and discussed ways to enhance cooperation and effectiveness without prejudice to their respective mandates. The Committee and the Board also engaged in extensive discussions on the Board's findings on the operational implications of the trends in the financial statements.

53. The dialogue between the Board and the Committee allowed for the sharing of perspectives on matters of mutual concern and provided a useful opportunity for cooperation among United Nations oversight bodies.

Other matters

54. As part of its regular sessions with OIOS, the Committee was apprised of the developments pertaining to the proposal requested pursuant to paragraphs 19 and 20 of the General Assembly resolution 65/243 B regarding the willingness of the Board of Auditors to conduct performance audits. The matter was further discussed with the Board in an exchange of views.

55. The Committee noted that the main purpose of the external audits was to express an opinion on the financial statements of the Organization. In so doing, the Committee recognized that the external auditors might become aware of issues of efficiency, economy and effectiveness, which could, in their professional judgement, serve as a basis for additional performance audit work that should be performed by them, OIOS or another appropriate audit entity. The Committee was informed that the Board of Auditors had been carrying out performance audits in the context of efficiency alone, as provided for in regulation 7.5 of the Financial Regulations and Rules of the United Nations.

56. The Committee was cognizant of the fact that according to International Standards of Supreme Audit Institutions (ISSAI) Standard 5000, external auditors of publicly funded international institutions perform both regularity (the traditional financial statement audit) and performance audits. The Board of Auditors is seeking a strengthened mandate to cover the "three Es" (economy, efficiency and effectiveness), as well as the ability to issue stand-alone reports on the results. **The Independent Audit Advisory Committee is of the view that should the General Assembly authorize the Board of Auditors to carry out additional performance audits, measures should be put in place to make sure that such audits are not unnecessarily or inappropriately duplicative or overlapping with those performed by OIOS. Ensuring the absence of overlap or duplication will require concerted effort between OIOS and the Board of Auditors and would necessitate the Board to place more emphasis on the work done by OIOS.**

57. The Committee was also informed that any performance audits initiated by the Board of Auditors, based on its financial audit work, would not result in additional costs to the Organization because there would be a realignment of the resources under the existing financial audit arrangement. However, additional costs would be incurred in the future, should the General Assembly request additional performance audits.

F. Cooperation and access

58. The Independent Audit Advisory Committee is pleased to report that it has received the full cooperation of the Joint Inspection Unit, the Board of Auditors, the Office of Internal Oversight Services and senior management in the Secretariat, including the Department of Management, in discharging its responsibilities. The Committee was also given appropriate access to the staff, documents and information it needed to undertake its work. The Committee looks forward to continued cooperation with the entities with whom the Committee interacts in order for it to discharge its responsibilities, as set out in the terms of reference, in a timely manner.

IV. Conclusion

59. Within the context of its terms of reference, the Independent Audit Advisory Committee provides the observations, comments and recommendations, as contained in paragraphs 9, 14, 17 to 20, 23, 26, 27, 31, 37, 40, 42, 44, 46, 50 and 56 above, for the consideration of the General Assembly.

United Nations A/66/300

General Assembly

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Sixty-sixth session
Item 112 of the provisional agenda*
Notification by the Secretary-General under Article 12, paragraph 2, of the Charter of the United Nations

Notification by the Secretary-General under Article 12, paragraph 2, of the Charter of the United Nations

Note by the Secretary-General**

1. In accordance with the provisions of Article 12, paragraph 2, of the Charter of the United Nations and with the consent of the Security Council, the Secretary-General has the honour to notify the General Assembly of matters relative to the maintenance of international peace and security that are being dealt with by the Security Council.

2. The matters relative to the maintenance of international peace and security of which the Security Council is seized are set out below. In accordance with the procedure set out in the note by the President of the Security Council dated 26 July 2010 (S/2010/507) (S/2010/507), all items subject to deletion in 2011 remained on the list of items of which the Council is seized for one additional year (see S/2011/10/Add.9).

1. The Palestine question.
2. The India-Pakistan question.
3. The Hyderabad question.
4. Letter dated 20 February 1958 from the representative of the Sudan addressed to the Secretary-General.
5. Letter dated 11 July 1960 from the Minister for Foreign Affairs of Cuba addressed to the President of the Security Council.
6. The situation in the Middle East.

* A/66/150.
** The present notification relates to the period from 1 September 2010 to 31 August 2011.

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Please recycle

7. Letter dated 31 December 1960 from the Minister for External Affairs of Cuba addressed to the President of the Security Council.

8. The situation in Cyprus.

9. The situation in the India/Pakistan subcontinent.

10. Letter dated 3 December 1971 from the Permanent Representatives of Algeria, Iraq, the Libyan Arab Republic and the People's Democratic Republic of Yemen to the United Nations addressed to the President of the Security Council.

11. Complaint by Cuba.

12. Arrangements for the proposed Peace Conference on the Middle East.

13. The situation concerning Western Sahara.

14. The situation in Timor-Leste.

15. The Middle East problem, including the Palestinian question.

16. The situation in the occupied Arab territories.

17. The question of the exercise by the Palestinian people of its inalienable rights.

18. The situation between Iran and Iraq.

19. Letter dated 1 October 1985 from the Permanent Representative of Tunisia to the United Nations addressed to the President of the Security Council.

20. Letter dated 4 February 1986 from the Permanent Representative of the Syrian Arab Republic to the United Nations addressed to the President of the Security Council.

21. Letter dated 15 April 1986 from the Chargé d'affaires a.i. of the Permanent Mission of the Libyan Arab Jamahiriya to the United Nations addressed to the President of the Security Council;

    Letter dated 15 April 1986 from the Chargé d'affaires a.i. of the Permanent Mission of Burkina Faso to the United Nations addressed to the President of the Security Council;

    Letter dated 15 April 1986 from the Chargé d'affaires a.i. of the Permanent Mission of the Syrian Arab Republic to the United Nations addressed to the President of the Security Council;

    Letter dated 15 April 1986 from the Permanent Representative of Oman to the United Nations addressed to the President of the Security Council.

22. Letter dated 19 April 1988 from the Permanent Representative of Tunisia to the United Nations addressed to the President of the Security Council.

23. Letter dated 2 February 1990 from the Permanent Representative of Cuba to the United Nations addressed to the President of the Security Council.

24. United Nations peacekeeping operations.

25. The situation between Iraq and Kuwait.

26. The situation in Liberia.

27. The situation in Somalia.

28. The situation in Bosnia and Herzegovina.

29. The situation in Georgia.

30. The question concerning Haiti.

31. Complaint by Ukraine regarding the decree of the Supreme Soviet of the Russian Federation concerning Sevastopol.

32. The situation in Burundi.

33. The situation in Afghanistan.

34. The situation in Sierra Leone.

35. International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991.

36. International Criminal Tribunal for the Prosecution of Persons Responsible for Genocide and Other Serious Violations of International Humanitarian Law Committed in the Territory of Rwanda and Rwandan Citizens Responsible for Genocide and Other Such Violations Committed in the Territory of Neighbouring States between 1 January 1994 and 31 December 1994.

37. The situation in the Great Lakes region.

38. The situation concerning the Democratic Republic of the Congo.

39. The situation in the Central African Republic.

40. Security Council resolutions 1160 (1998), 1199 (1998), 1203 (1998), 1239 (1999) and 1244 (1999).

41. The situation between Eritrea and Ethiopia.

42. Children and armed conflict.

43. The situation in Guinea-Bissau.

44. Protection of civilians in armed conflict.

45. Small arms.

46. Protection of United Nations personnel, associated personnel and humanitarian personnel in conflict zones.

47. General issues relating to sanctions.

48. The situation in the Middle East, including the Palestinian question.

49. Women and peace and security.

50. Briefing by the President of the International Court of Justice.

51. Briefing by the United Nations High Commissioner for Refugees.

52. Briefing by the Chairperson-in-Office of the Organization for Security and Cooperation in Europe.

53. Meeting of the Security Council with the troop- and police-contributing countries pursuant to resolution 1353 (2001), annex II, sections A and B.

54. Threats to international peace and security caused by terrorist acts.

55. Briefings by Chairmen of subsidiary bodies of the Security Council.

56. The situation in Côte d'Ivoire.

57. Kimberley Process Certification Scheme.

58. Security Council mission.

59. The promotion and strengthening of the rule of law in the maintenance of international peace and security.

60. Letter dated 5 October 2003 from the Permanent Representative of the Syrian Arab Republic to the United Nations addressed to the President of the Security Council (S/2003/939);

    Letter dated 5 October 2003 from the Permanent Representative of Lebanon to the United Nations addressed to the President of the Security Council (S/2003/943).

61. Central African region.

62. Non-proliferation of weapons of mass destruction.

63. Reports of the Secretary-General on the Sudan.

64. Post-conflict peacebuilding.

65. The situation concerning Iraq.

66. Letters dated 26 July 2005 from the Permanent Representative of the United Kingdom of Great Britain and Northern Ireland to the United Nations addressed to the President of the Security Council (S/2005/485 and S/2005/489).

67. Threats to international peace and security.

68. Non-proliferation.

69. The situation in Chad and the Sudan.

70. Briefing by the Chairman of the African Union.

71. Peace consolidation in West Africa.

72. The situation in Myanmar.

73. Non-proliferation/Democratic People's Republic of Korea.

74. Letter dated 22 November 2006 from the Secretary-General addressed to the President of the Security Council (S/2006/920).

75. Maintenance of international peace and security: role of the Security Council in supporting security sector reform.

76. Letter dated 5 April 2007 from the Permanent Representative of the United Kingdom of Great Britain and Northern Ireland to the United Nations addressed to the President of the Security Council (S/2007/186).

77. Maintenance of international peace and security.

78. The situation in Chad, the Central African Republic and the subregion.

79. Peace and security in Africa.

80. Cooperation between the United Nations and regional and subregional organizations in maintaining international peace and security.

81. Briefing by the Under-Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator.

82. Letter dated 22 September 2009 from the Permanent Representative of Brazil to the United Nations addressed to the President of the Security Council (S/2009/487).

83. Letter dated 4 June 2010 from the Permanent Representative of the Republic of Korea to the United Nations addressed to the President of the Security Council (S/2010/281) and other relevant letters.

84. Letter dated 18 December 2010 from the Permanent Representative of the Russian Federation to the United Nations addressed to the President of the Security Council (S/2010/646).

85. Letter dated 6 February 2011 from the Permanent Representative of Cambodia to the United Nations addressed to the President of the Security Council (S/2011/58).

86. The situation in Libya.

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Implementation of the International Strategy for Disaster Reduction

Report of the Secretary-General

Summary

The present report provides an overview of progress on the implementation of the International Strategy for Disaster Reduction in response to General Assembly resolution 65/157. Disaster risk is accumulating faster than economic growth, thus hampering development and the achievement of the Millennium Development Goals. The midterm review of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters revealed that its principles have guided progress towards resilience. However, risk management systems and decision-making at national, subnational and international levels require further critical development, including disaster loss accounting and integrated risk modelling, to support sound development and investment planning.

The third session of the Global Platform for Disaster Risk Reduction, held in May 2011, convened the broadest-ever cross-section of leaders and experts committed to building resilience. Its deliberations provided guidance for the further implementation of the Hyogo Framework for Action. A strong sense of urgency for increased investments in disaster risk reduction was expressed. The Government of Japan offered to host the Third World Conference on Disaster Risk Reduction in 2015.

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I. Trends in disasters and disaster risks

1. Large and small disasters, ranging from the Pakistan floods in July 2010 to floods in countries such as Benin or Brazil, are a further demonstration of the intimate relationship between disasters and poverty, as highlighted by the *2011 Global Assessment Report on Disaster Risk Reduction: Revealing Risk, Redefining Development*.[1] Meanwhile, the floods in Australia, the earthquake in Christchurch, New Zealand, and the earthquake, tsunami and nuclear disasters wreaking havoc in north-eastern Japan are stark reminders that developed countries and their economies are also exposed and cities are at risk. Hundreds of smaller disasters associated with climate variability have caused enormous damage in many countries, revealing how risk is linked to unsound development practices and growth in economic and population exposure.

2. The increasing financial, social and political cost of disasters is evident. Mortality risk associated with weather-related hazards is declining at the global level, while economic losses continue to increase across all regions. According to the *2011 Global Assessment Report*, mortality risk related to tropical cyclones has decreased by 50 per cent in East Asia and the Pacific since 1990. Concerning earthquake and tsunami risk, both mortality and economic loss risk are rising globally. During the reporting period, a total of 347 disasters triggered by natural hazards affected more than 255 million people, claiming more than 106,000 lives and causing economic losses of over US$ 304 billion.[2]

3. Economic loss risk is growing faster in higher-income countries. Since 1980, economic loss related to tropical cyclones increased by 262 per cent in high-income countries, compared to 155 per cent in low-income countries. In 2010, the economic loss risk related to floods in the Organization for Economic Cooperation and Development (OECD) countries was about 170 per cent more than in 1990, rising faster than gross domestic product (GDP). Economic risk related to floods and tropical cyclones is indeed increasing faster than GDP per capita in many countries, meaning that the risk of losing wealth in a disaster is increasing faster than wealth is being created. Low-income countries have less capacity to absorb and recover from economic losses owing to disasters. In general, larger economies are more able to absorb losses than smaller ones — such as small island developing States — because they tend to be more geographically and economically diverse.

4. Drought is the "disaster" that is most associated with inappropriate social and economic policy choices, and often with the instability caused by conflict. It remains a hidden risk, poorly understood despite its impacts on human health, livelihoods and multiple economic sectors. Drought leads to stress and insecurity for rural and pastoralist populations. Disaster data reported nationally and internationally fail to capture the extent of drought impacts. For example, only four drought-related deaths were reported globally between July 2010 and June 2011, while 32,482,102 people were reported affected by droughts — more than by any other hazard.[2] Strengthened integrated risk management systems at local and national levels, with systematic recording of drought impacts, is a key step required

[1] The *2011 Global Assessment Report* is a collaborative effort of the International Strategy for Disaster Reduction system partners. See www.preventionweb.net/gar.

[2] EM-DAT: the OFDA/CRED International Disaster Database.

to reduce drought risks, improve early warning and prevent drought impacts from cascading into food security crises.

5. In the period 1970-2010, the world population increased by 87 per cent. During the same period, the population growth in flood-prone river basins increased by 114 per cent, and in cyclone-prone coastlines by 195 per cent. Hence, economic and productive assets are accumulating in the most hazard-exposed areas, particularly in low- and lower-middle-income countries. To reverse these trends, development plans and investment choices must be informed by risk information and addressed through an applied disaster risk reduction framework.

6. Natural hazards, as illustrated by the Great East Japan Earthquake and tsunami, can have devastating sequential and collateral impact — not only for nuclear facilities, but also for infrastructural complexes such as hydropower dams, industry, bridges and highways. These considerations must motivate new efforts for integrated, over-the-horizon thinking and planning for design standards, preparedness, early warning and response.

II. Challenges and opportunities associated with the implementation of the Hyogo Framework for Action

7. The midterm review of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters,[3] the HFA Monitor,[4] the *2011 Global Assessment Report*, the global and regional platforms and associated consultative processes have identified critical challenges, opportunities and priorities to reduce risk exposure and vulnerability. There is a solidly growing political will to manage disaster risk at global, national and local levels as well as across the public and private sectors. It is now critical to channel this determination through clearer guidance on "how-to-do-it" through evidence-based decisions, informed public opinion and increased cooperation across business areas and global, national and local levels.

8. In line with General Assembly resolution 64/200, the Strategy secretariat facilitated the midterm review of the Hyogo Framework for Action through a participatory approach involving stakeholders at international, regional and national levels.

9. The midterm review highlighted that the Hyogo Framework for Action over the past five years had significantly contributed to generate international and national political momentum and action to reduce disaster risk. Its principles have been widely adopted as guidance. The review indicated critical areas for further work and cooperation.

10. The review confirmed that reduction of disaster risk, exposure and vulnerability primarily depend on sound development policies and investments. Whereas there are some good examples of how this can be done, a full integration of risk management in development planning is still lacking and this is attributable to, among other causes, the limited engagement of communities and local governments as well as the lack of a whole-of-government approach in the determination of national priorities.

[3] A/CONF.206/6 and Corr.1, chap. I, resolution 2. See www.preventionweb.net/english/hyogo/hfa-mtr/.

[4] www.preventionweb.net/english/hyogo/hfa-monitoring/.

11. Managing disaster risk and its consequences requires strong cooperation across sectors and among nations, including local constituencies. While there is progress in certain sectors, this cannot yet yield the expected results given the lack of integration of systems. Significant knowledge has been generated but is not fully used. The public and the private sectors have developed important practices and have important lessons to share. It is therefore critical to review existing disaster risk management systems and their interfaces both at national and international levels. In this context, national-level, multi-stakeholder "national platforms for disaster risk reduction" have represented an important model and potential source for guidance for informed decision-making and public awareness. However, their potential has not been fully utilized and there is a need to further review how can they best support domestic decision-making and international cooperation.

12. Accountability for effective disaster management requires further strengthening. The adoption of relevant legislation by numerous countries is a significant step. At the same time, it cannot yet be effectively implemented owing to the lack of appropriate recording of disaster losses, as well as the lack of clear standards, baselines and target indicators to guide and measure progress. In this context, the development of guidance tools based on cross-sectoral knowledge and experience is critical. Common analytical tools to trace and understand the causes of disasters would support development investment and planning, as well as prepare for future hazards. Whereas risk is local in nature, its reduction requires national and global cooperation.

13. Evidence has emerged that effective disaster risk management is dependent on the existence of a senior, over-arching authority at a high governmental level where both responsibility and accountability rest for setting policies, leading whole-of-government processes, and ensuring budget allocations for all the different aspects of disaster risk reduction. The *2011 Global Assessment Report* concluded that at the central government level, responsibility for disaster risk management needs to be located in a ministry or department with planning oversight and fiscal responsibility that can provide political authority and policy coherence across sectors. The incremental decentralization of responsibilities to local governments needs to be accompanied by a decentralization of capacities and resources. Disaster risk management will be effective only when it is carried out in partnership with disaster-prone households and communities, and their organizations. This is key to cost-effectiveness, sustainability, citizenship and social cohesion. There are a growing number of examples of such partnerships, but in many countries this implies a change in the culture of public administration. The challenge is not community participation — it is government participation in the planning and implementation of community and local disaster risk management.

14. While a number of mechanisms for generating and sharing information are in place, standards for disaster risk reduction remain varied, unintegrated or do not address management of multiple hazards that occur simultaneously or sequentially. A multi-hazard approach for preparedness that factors in techno.ogical disasters as secondary effects of natural disasters is necessary.

15. The midterm review of the Hyogo Framework for Action noted that financing of disaster risk reduction is still underdeveloped and more work is needed to track investments, positively condition development investments and support local level action. In this context, the Strategy secretariat has engaged a number of countries and organizations for the development of models and guidance.

16. According to the *2011 Global Assessment Report*, most countries are not systematically accounting for losses in public assets owing to disasters. Unaccounted losses are often absorbed by low-income groups, increasing poverty and eroding progress towards the Millennium Development Goals. At the same time, when these losses in public assets are monetized they often represent a significant proportion of GDP or national budgets. Most countries are unable to quantify their investments in disaster risk reduction but when they do, those investments are rarely commensurate with the scale of the losses. Unless the costs of those losses are calculated, it is unlikely that a country would be able to justify increased investments in disaster risk management in the national budget. The *2011 Global Assessment Report* further concludes that land-use planning and building improvement to avoid creating risk has benefit-cost ratios of 4 or more, whereas correcting risk through relocation or retrofitting is only just cost-effective. Given that public investment typically represents 3 to 15 per cent of GDP, incorporating disaster risk reduction into public investment planning is a strategic decision which could lead to a significant reduction in risk in the medium term. Countries such as Costa Rica and Peru have included disaster risk in their criteria for the evaluation of public investment. The most cost-effective risk reduction investments are those concentrated in the most vulnerable part of a country's portfolio of public buildings and critical facilities. Existing social protection instruments can be adapted to reach out to millions at relatively low additional cost. For example, Chile extended payments from its social assistance programmes to households affected by the February 2010 earthquake and tsunami.

17. Disaster risk information plays a critical role in guiding investment decisions and supporting public opinion. Access to information about natural hazards and the available risk reduction measures provides opportunities to reduce vulnerabilities. Risk information in the immediate aftermath of disasters is vital to an effective response and can guide the immediate actions of relief and response teams, national and local government and the general public. A complex question that requires careful and collective consideration is the criteria for the determination of the level of risk and the cost of the mitigating measures that governments, organizations and communities are ready to take when considering the impact of extreme events.

18. In December 2010, at the Conference of the Parties to the United Nations Framework Convention on Climate Change in Cancún, Parties asserted the importance of enhancing climate change-related disaster risk reduction strategies, taking into consideration the Hyogo Framework for Action where appropriate. The attention to disaster risk reduction in the Cancún Adaptation Framework signals strong national ownership of disaster risk reduction, and the established processes for formulating and implementing national adaptation plans present an influential means of scaling up disaster risk reduction through multisectoral, multi-stakeholder processes.

III. Coordination and guidance through the Strategy system

19. Effective disaster risk reduction requires innovative and cross-sector partnerships, including at the local level and between public and private entities. The existing mechanisms at global, regional and national levels have proved to be critical for creating political momentum and space for disaster risk reduction. There is a need to further strengthen those mechanisms and to ensure their interconnectedness and the

inclusiveness of various stakeholders to address the emerging challenges related to climate and disaster risk reduction.

A. Strengthening global, regional and national level coordination

Global

20. The third session of the Global Platform for Disaster Risk Reduction was held in Geneva from 8 to 13 May 2011. It brought together over 2,600 delegates representing 168 Governments, 25 intergovernmental organizations, 65 non-governmental organizations, the International Federation of the Red Cross and Red Crescent Societies, local governments, parliamentarians, the private sector, academic institutions, civil society and international organizations. The third session was chaired by my Deputy Secretary-General in consideration of the fact that disaster risk reduction is at the centre of the development, environmental and humanitarian work of the United Nations and its partners.

21. At the third session, the Global Platform and its preparatory, participatory process were confirmed to be the main forum at the global level for policy guidance, coordination and partnership development, and cross-sector fertilization for the sharing of good practice on disaster risk reduction. The Geneva-based International Strategy for Disaster Reduction Support Group, the International Red Cross and Red Crescent Movement, the Global Network of Civil Society Organizations, partners and local governments in the "Making Cities Resilient" campaign, the International Strategy for Disaster Reduction Private Sector Advisory Group, and regional organizations as well as the United Nations agencies and the World Bank, provided critical inputs for the preparation of the third session.

22. In addition to statements of commitments by Member States, mayors advanced their commitment to the Ten Essentials for Making Cities Resilient; private sector participants agreed on Five Essentials for Business; a group of young people came together to advance a five-point charter on children and disaster reduction; and a joint statement from international organizations focusing on health called for scaling up the community-based health workforce as vital for disaster risk reduction, and called for Governments and partners to invest for strengthening their capacity. Regional organizations reaffirmed their commitment to implementing regional strategies agreed to in ministerial meetings worldwide.

23. The Hyogo Framework for Action has a lifespan from 2005 to 2015. Discussions at the third session stressed the importance of ensuring the further implementation of the Framework, while discussions concerning the post-2015 disaster risk reduction framework unfold, facilitated by the Strategy secretariat as the focal point in the United Nations system for disaster risk reduction. In this context, during the third session, the Government of Japan made an offer to host the Third World Conference on Disaster Risk Reduction in 2015 to coincide with the expiration of the Hyogo Framework for Action 2005-2015.

24. An integral component of the third session of the Global Platform, the first World Reconstruction Conference, organized by the Global Facility for Disaster Reduction and Recovery, the World Bank and the Strategy secretariat, recognized challenges in the coordination and financing of post-disaster recovery and reconstruction. Discussions focused on how to develop an effective recovery

framework, more reliable financing and knowledge practice, stressing the integration of risk reduction into all post-disaster actions.

25. Member States demonstrated a growing commitment to disaster risk reduction and widening the necessary political space for discussions and actions. On 9 February 2011, the President of the United Nations General Assembly convened an informal thematic debate on disaster risk reduction with the aim of strengthening the understanding of how to reduce risk and exposure to disasters through effective investment policies and practices and sustainable urban management.

26. The HFA Monitor is a valuable source of information for monitoring progress on the Hyogo Framework principles, sharing of practices and identifying emerging strategic issues to address nationally and internationally. A total of 133 countries contributed to the third reporting cycle 2009-2011. A further refinement of this tool is under way, including a module for self-assessment at the local level.

Regional

27. Regional activities were significant over the reporting period.[5] The Strategy secretariat's substantive advice and support provided to governments and regional organizations in the preparation of regional Ministerial conferences, regional platforms and other meetings, with resulting action plans and follow-up activities, are valued by stakeholders.

28. Regional meetings identified the need to decentralize and implement local and community-based disaster risk reduction strategies and programmes, through adequate, realistic and predictable funding mechanisms and with an enhanced role for local governments and local non-governmental organizations, including volunteer networks. Moreover, discussions and communiqués reiterated commitment to the provisions of the Hyogo Framework as guiding principles for disaster risk reduction.

National

29. At the national level, national platforms for disaster risk reduction or similar national coordination mechanisms have the potential to support decision-making concerning national development plans and investments. During the third session of the Global Platform for Disaster Risk Reduction, a meeting of national platforms discussed options and best practices to improve their action. The Strategy secretariat will further support reviews of the current practices and promote enhanced multi-stakeholder disaster risk reduction capacities.

30. United Nations Resident Coordinators are increasingly engaged in disaster risk reduction in high-risk countries as the needs and demands become more explicit. The Strategy secretariat, together with partners, has contributed towards the integration of disaster risk reduction and climate change adaptation objectives in 30 United Nations Development Assistance Frameworks.

31. Mobilizing specific stakeholder groups and "agents of change" has led to a considerable increase in the political profile of disaster risk reduction. Mayors, governors and parliamentarians advocated with the Strategy secretariat among their peers for increased commitments and actions to build resilience. The United Nations

[5] Strategy secretariat, *Aligning Regional and Global Disaster Risk Reduction Agendas: Summary of key regional political commitments and disaster risk reduction priorities* (May, 2011).

Sasakawa Award for Disaster Reduction 2011 targeted resilient cities and local action, with North Vancouver (Canada), Santa Fe (Argentina) and San Francisco (Philippines) sharing the award, while Bhubaneswar (India), the Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPREDENAC) (Central America) and the Earthquake Reconstruction and Rehabilitation Authority (Pakistan) received certificates of distinction.

32. Most recently, the Strategy secretariat established the International Strategy for Disaster Reduction Private Sector Advisory Group. It acts as a catalyst, bringing together a wide range of private sector entities into a global partnership in order to build resilience through specific actions, such as supporting national and local risk assessments, promoting social and environmental sustainability in risk financing, fostering dissemination of data, and leveraging sectoral private sector expertise and strengths, for instance, in construction of resilient infrastructure and sustainable land use and development in high-risk areas, such as cities and coastal zones.

33. The work with parliamentarians, the Inter-Parliamentary Union and national assemblies has led to increased political commitment to invest in disaster risk reduction and climate risk adaptation at global, regional and national levels. In addition, the Strategy secretariat advocated gender-sensitive disaster reduction by promoting the shared ownership and leadership of individual and institutional partners.

34. Under the leadership of my Special Representative for Disaster Risk Reduction, the Strategy secretariat continued to play a leading role in providing coordination and ensuring synergy through the above-mentioned global, regional and national mechanisms, in leveraging International Strategy for Disaster Reduction stakeholders' vision, and knowledge generation and knowledge-sharing, fostering new partnerships and advocating for more resilient communities. The uniqueness of its cross-cutting mandate has allowed the Strategy secretariat to bring together partners from the development, environmental and relief communities to charter the next steps for the further implementation of the Hyogo Framework.

35. The midterm review of the Hyogo Framework for Action and the *2011 Global Assessment Report on Disaster Risk Reduction* have brought to the fore the need to strengthen governance mechanisms at all levels in order to ensure effective disaster risk reduction, including within the United Nations system. In particular, it has highlighted the need for the United Nations system to strengthen its policy and operational coherence to better support countries through the United Nations Resident Coordinators and the United Nations country teams. I asked my Special Representative to brief the United Nations System Chief Executives Board for Coordination on the findings of the review and to propose a future course of action. The High-level Committee on Programmes will discuss the matter further in order to determine the appropriate course of action across the United Nations system. The Strategy secretariat will continue to focus on enhancing coordination within the United Nations system.

36. On multiple occasions, partners and governments have reiterated the Strategy secretariat's critical role in the strengthening of the United Nations system's work for disaster risk reduction. Based on the appreciation expressed by the review, the Office of Internal Oversight Services (OIOS) in its audit report of 28 July 2010 on the governance of the Strategy secretariat, as well as General Assembly resolution 65/157, the Advisory Committee on Administrative and Budgetary Questions concurred with my proposal to extend the post of the Special Representative for

Disaster Risk Reduction for another four years until the end of 2015 to ensure the follow-up to the midterm review, further implementation of the Hyogo Framework, and to facilitate the development of a post-2015 framework for disaster risk reduction. I will also look into other measures to ensure that the Strategy secretariat can discharge its mandate with efficiency and effectiveness.

B. Advocating for safer cities, schools and hospitals

37. Half of humanity is now living in cities. By 2050, urbanization will rise to 70 per cent and urban risk will continue to increase. The Strategy secretariat worked to raise the profile of local governments' work in reducing disaster risk and building resilience by targeting mayors and city councils, through the world disaster risk reduction campaign "Making Cities Resilient: My city is getting ready", launched in 2010, which is boosting efforts to develop and implement local resilience strategies. In less than a year, at the end of June 2011, more than 750 cities and local governments had signed up in the campaign, which has accrued a host of enthusiastic supporters from across the global and national city networks, the United Nations system, civil society and the private sector. A growing number of city-to-city collaboration efforts and similar initiatives on disaster risk reduction are emerging as a result of the campaign.

38. Several international declarations, such as the Bonn Declaration of the World Mayors Council on Climate Change and recommendations from the third World Congress of United Cities and Local Governments in Mexico City, called on their member cities and partners to join the campaign and to actively support and monitor its implementation.

39. The Strategy secretariat launched the One Million Safe Schools and Hospitals pledging initiative[6] with partners from the Asian region and global International Strategy for Disaster Reduction partners. By the end of June, regional launches of the initiative took place in all regions and more than 138,000 schools and hospitals were pledged for safety. The World Health Organization (WHO) reported progress on the implementation of safer hospitals initiatives in more than 42 countries across the world. More than 630 health facilities have been assessed for their safety and ability to function in emergencies, and the measures have been implemented to reduce vulnerability and increase preparedness, in countries such as Indonesia, Mexico, Nepal, Oman, the Philippines and the Republic of Moldova.

40. The Strategy secretariat's Thematic Platform on Knowledge and Education, through a core group of partners,[7] developed a global baseline study on school safety, which was discussed at a featured event during the Global Platform. The event brought together Ministries of Education and national disaster management agencies and resulted in recommendations to make disaster risk reduction a priority in school curricula and a right for all children to achieve the global education objectives. Representatives called for more systematic and continued investment by donors in school safety. As a result, a series of school safety assessments were announced in vulnerable pilot countries.

[6] www.safe-schools-hospitals.net.

[7] UNESCO, UNICEF, the World Bank, Plan International, Save the Children, the International Federation of Red Cross and Red Crescent Societies, World Vision, the Coalition for Global School Safety (COGSS), Prevention 2000, the Strategy secretariat and others.

C. Increasing investment in disaster risk reduction

41. Most countries reported, according to the HFA Monitor, relatively little progress towards measurable increases in resources for risk governance capacities and disaster risk management in individual sectors or for local governments. However, that is in part attributable to the complexity of recording risk reduction expenditure, as financial reporting systems do not allow easy quantification — investments are provided through diverse instruments, including sector budgeting, environmental protection funds, social solidarity and development funds, compensation funds, civil society and, in some countries, the private sector.

42. At its second session, the Global Platform for Disaster Risk Reduction (2009) suggested targets for risk-reducing investments, namely, 1 per cent of national development budgets, 10 per cent of humanitarian aid financing,[8] and 10 per cent of reconstruction and recovery funds. Measurable progress has been observed in the increasing proportion of humanitarian aid investment dedicated to disaster prevention and preparedness, as recorded in official statistics of OECD (4.2 per cent in 2009). This is an indicative figure, as with rising spending on official development assistance (ODA) — to over $132 billion in 2009[9] — and the growing emphasis on resilience within the development community, the actual figure is assumed to be much higher. But in the absence of more widespread explicit budgeting for risk reduction, a significantly greater investment is required to develop a more accurate picture.

43. Countries and communities, rich or poor, cannot afford to keep resorting to expensive post-disaster measures in the case of mostly preventable disasters. Therefore, the appreciation of the wider development community of the need to focus on resilience has grown significantly. Risk reduction and strategies for resilience feature with increasing frequency in aid effectiveness dialogue. Countries and the international community are increasingly looking to the future, and the risks that communities and countries face, when designing and implementing development programmes. Significant policy developments have been made in actively promoting risk reduction in sustainable development programming; good examples include Australia's "Integration in practice — Integrating disaster risk reduction, climate change and environmental considerations in AusAID programmes", the European Commission's Implementation Plan of the European Union (EU) Strategy for supporting disaster risk reduction in developing countries, 2011-2014 and the commitment of the Government of the United Kingdom of Great Britain and Northern Ireland to build resilience in all country programmes of the United Kingdom Department for International Development.

44. The fourth High Level Forum on Aid Effectiveness in Busan, Republic of Korea, in November 2011, will provide an opportunity for Development Ministers, as well as heads of multilateral and bilateral development institutions, to make a public and measurable commitment to promote the sustainability and cost-effectiveness of poverty eradication and promote lasting peace and security, by placing resilience and risk reduction at the heart of domestic and international investment strategies.

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[8] A target that some donors, including Australia, the European Commission Humanitarian Aid and Civil Protection Department (ECHO), Germany, and the United States of America, claim to have reached or surpassed.

[9] Based on OECD/Development Assistance Committee, 2010.

45. The United Nations-World Bank partnership continues to mainstream disaster risk reduction as an integrated development priority through the Global Facility for Disaster Reduction and Recovery. During 2007-2011, donors to the Facility have cumulatively pledged over $304 million for disaster risk reduction activities.

Funding of the Strategy secretariat

46. In line with General Assembly deliberations calling for more predictability and stability in funding for the Strategy secretariat, currently funded only through extrabudgetary resources, and taking into account the OIOS audit report on the Strategy secretariat, I have requested in the proposed programme budget for the biennium 2012-2013 (see A/66/6 (Sect. 27)) the creation of a D-1 post of Chief of Branch, Regional Programme and Policy Development. This post will lead the Strategy secretariat's regional work, critical for the execution of the mandate given by the General Assembly to the Strategy secretariat, namely, to serve as the focal point in the United Nations system for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities of the United Nations system and regional organizations and activities in socio-economic and humanitarian fields.

IV. Conclusions and recommendations

47. Consultations with governments and partners through national, regional and global processes culminated with the third session of the Global Platform for Disaster Risk Reduction, which identified[10] critical areas and opportunities for joint work to manage disaster risk and strengthen the implementation of the Hyogo Framework for Action over the next five years.

48. Disaster risk reduction contributes to social protection measures in support of the most vulnerable people, to economic growth and to ecosystem management. Hence, there is the need for further integrating disaster risk reduction in sustainable development and climate risk management. Disaster risk reduction and sustainable development are intrinsically linked. Ahead of the "Rio+20" World Summit on Sustainable Development, political and financial commitment to reducing disaster risk has to become a core component of our vision for sustainable development.

49. There is a clear political commitment to manage disaster risk. It is now critical to channel it through practical action. At the national level, sound decisions on development investments and planning can be supported by the establishment of key mechanisms for integrated risk mapping, disaster loss recording, integration of sectoral knowledge to better identify the causes of disasters and future mitigating measures, as well as the determination of targets for reduction.

50. National multi-stakeholder mechanisms can play a critical role in supporting informed decision-making, the development of integrated communication strategies to inform the public and thus support individuals' choices. Different models of national platforms have developed over the past 10 years with mixed results. The International Strategy for Disaster Reduction will launch a process jointly with national mechanisms to capture national experiences and ensure that a viable model

[10] See the Chair's Summary of the third session of the Global Platform for Disaster Risk Reduction (Geneva, 8-13 May 2011).

for disaster risk reduction promotion can be established to contribute to optimal risk management.

51. Further work is required in clarifying the close link between actions for disaster risk reduction and climate change adaptation. Strengthening the synergies between disaster prevention and climate risk reduction initiatives is an indispensable step towards reducing vulnerability. Particular attention needs to be paid to focused, applied actions targeting disaster risk reduction through climate risk management strategies.

52. From the disasters that occurred during the reporting period a number of lessons can be drawn, including:

- Public awareness, education and drills work to build resilience. Yet, little is done to increase public awareness and access to risk-management-related information. In addition, people's perception of risk changes over a period of time and thus it must be constantly reassessed to ensure a high degree of receptivity for early warning and risk information and to enable decision makers to make the right choices. Public education and access to information are instrumental to generate trust in risk management mechanisms, critical at times of crisis.

- National risk management systems must be "all-of-government" and integrated within the country and with the international systems. Indeed, gaps in institutional coordination and knowledge pose major challenges to risk management, as the crisis-managers and leaders are not properly informed about the nature and implications of the crisis they are called upon to manage.

- Safety and security information needs to be cross-referenced and combined, as well as coupled with integrated multi-hazard early warning mechanisms across systems and stakeholder groups.

- Local governments and city managers are the first institutional responders. They are also responsible for services and urban development that impact on resilience and risk. Decentralized responsibilities with accompanying capacities, resources and multi-stakeholder outreach are essential for local governments to have the means to act.

53. **In the light of the findings of the midterm review, the *2011 Global Assessment Report*, the HFA Monitor reports, and the deliberations at the third session of the Global Platform for Disaster Risk Reduction, I recommend the following:**

(a) **Any future framework for sustainable development needs to include a clear prescription for incorporation of disaster and climate risk management. Equally, poverty and vulnerability reduction are integral to effective disaster risk management.**

(b) **National disaster loss registers, disaster risk mapping and financial tracking systems need to be established and further developed to effectively support future development planning and investment choices.**

(c) **Effective risk reduction takes place only with the full engagement of local governments and their communities. They need the appropriate authority,**

and the human and financial capacity, and to be engaged in the definition of national risk management policies.

(d) The practice and operational models of national mechanisms for disaster risk reduction, such as multi-stakeholder national platforms, can be much better used for advocacy, knowledge and cooperation, and I encourage their further strengthening and establishment where still lacking.

(e) Member States and organizations need to scale up their financial, human and technology investments for disaster risk reduction, including the development of private and public sector partnerships.

(f) I encourage a commitment from donors and developing countries to focus more clearly on supporting local and community resilience in their programming, using creative solutions and innovations and through stronger collaboration, as part of their aid-effectiveness commitments.

Annex

Specific information on progress made in implementing the Hyogo Framework for Action

1. The following section provides an overview of achievements as reported to the Strategy secretariat by national Governments,[a] United Nations agencies, the World Bank and other partners in relation to the five priority areas of the Hyogo Framework for Action.

A. Action at the national level

Priority 1
Ensure that disaster risk reduction is a national and a local priority

2. Progress in this area has been consistent across the world. More than 42 countries reported substantial achievement in this priority area. Specifically, 48 countries reported substantial achievement developing national policy and legal frameworks. However, several countries also highlighted that this progress does not necessarily translate into effective disaster risk management, especially at the local level.

3. National platforms increased from 61 to 81. Among countries that established national platforms during the reporting period were: Algeria, Armenia, Canada, the Gambia, Kyrgyzstan, Panama, Paraguay, Sierra Leone and Turkey.[b] The Netherlands, Norway and Serbia are set to launch their national platforms in the coming months. The institutional arrangements for disaster risk reduction in many countries have evolved from traditional single-agency "civil protection" structures to multisector systems and platforms. However, finding appropriate institutional arrangements to ease the incorporation of disaster risk reduction into development planning and public investment remains a challenge.

4. Several countries strengthened their institutional and legislative arrangements: Myanmar, Nepal and Botswana made disaster risk management apex bodies of presidents' and vice-presidents' offices while the United Republic of Tanzania transferred that responsibility to its economic and financial planning ministries. The Governments of Chile, the Dominican Republic and Uruguay carried out reviews by impartial inter-agency experts, coordinated by the Strategy secretariat, of national institutional capacities and the status of all the priority areas in the Hyogo Framework for Action, which resulted in new legislative frameworks in Chile and Uruguay.

Priority 2
Identify, assess and monitor disaster risks and enhance early warning

5. Progress on comprehensive risk assessments remains elusive, particularly at the local level. More than 20 countries undertook national multi-hazard risk assessments that could inform planning and development decisions. However, many countries faced major challenges linking them to development processes at the national and local levels. Unfortunately, countries that reported substantial progress

[a] Through the HFA Monitor and the *2011 Global Assessment Report*.

[b] See the following link for the complete list of national platforms: http://preventionweb.net/english/hyogo/national/list/.

in this area also highlighted an absence of national standards for assessing both disaster losses and risks. Only a few countries carried out risk assessments of schools and health facilities.

6. The European Commission adopted guidelines for mapping and assessing risks, based on a multi-hazard and multi-risk approach. Canada is developing a national all-hazards risk assessment framework. Barbados committed significant resources to conduct a comprehensive coastal risk assessment for the major coastal hazards. Several other countries made efforts to integrate risk assessments into a range of sectors, including health, education, agriculture, transportation and water management.

7. Countries reporting some progress in increasing early warning capacity include Bahrain, Burkina Faso, Lesotho, Nepal, the Republic of Moldova, Sierra Leone, Togo and Yemen. The Government of Pakistan prepared a plan for the improvement of the integrated flood forecasting abilities and hazard mapping capacity. Haiti's warning services for coastal hazards were strengthened through technical assistance, capacity-building and training, supported by the World Meteorological Organization (WMO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Development Programme (UNDP). Australia and Madagascar use mobile telephones to communicate warnings. Finland is developing digital radio networks reaching 80 per cent of its population with outdoor sirens.

Priority 3
Use knowledge, innovation and education to build a culture of safety and resilience at all levels

8. This priority area continues to show limited progress. Identifying and further developing methods and tools for multi-risk assessments and cost-benefit analyses remains a particularly weak area. Only 19 countries rated as substantial their efforts to integrate risk reduction into school curricula and relevant formal training. The majority of countries reported significant gaps in developing public awareness strategies for vulnerable urban and rural communities. China was a notable exception, reporting comprehensive progress on the availability of risk information, on developing a countrywide public awareness strategy and integrating disaster risk reduction into school curricula.

9. Some countries in Africa, such as Ethiopia, Kenya, Uganda and the United Republic of Tanzania are in the process of developing a central database for disaster risk management information. The Government of Pakistan carried out an assessment of damages and the training of teachers and provided learning opportunities for children and illiterate women affected by floods. In Haiti, over 3,000 secondary schoolteachers were trained on learner-centred psychosocial support and disaster risk reduction. Namibia made progress in introducing standards and tools for disaster risk reduction. The Ministry of Education in Myanmar initiated an effort to reduce vulnerability to disaster through an education recovery programme, targeted at female teachers.

Priority 4
Reduce the underlying risk factors

10. Progress in this area is even lower. Although countries reported a greater awareness of the need to factor disaster risk reduction into planning and investment,

only 22 rated their progress towards addressing the underlying risk drivers as substantial. Countries reported difficulties in addressing the risks internalized in different development sectors. That explains why economic loss and damage continue to increase. Only 32 countries invested in retrofitting critical public infrastructure such as schools and hospitals. Croatia reported pressure from the construction industry to lower standards and codes to reduce overall costs, even in hazard-prone areas.

11. Several countries in Africa are establishing mechanisms to protect the environment and ensure sustainable development, and many made significant efforts to incorporate disaster risk reduction in their national plans for climate change adaptation. In Uganda, the Food and Agriculture Organization of the United Nations (FAO) and the World Food Programme (WFP) supported an initiative to provide a productive safety net for food-insecure pastoral and agropastoral households affected by recurrent droughts.

12. Ecuador implemented a wide range of social policy instruments as part of its disaster risk reduction strategy. Malawi's new social development policies are designed and implemented so as to reduce vulnerability of at-risk communities. In Bangladesh, WFP supported the Government and non-governmental partners to assist 30,000 food-insecure households to raise their homes above flood levels.

Priority 5
Strengthen disaster preparedness for effective response at all levels

13. This area has been the dominant focus of national Governments for decades. It encompasses disaster preparedness and contingency plans at all administrative levels, financial reserves and contingency mechanisms, and well-established procedures for information exchange during emergencies. Forty-six countries reported substantial achievement in developing policy, technical and institutional capacities. It is clear that effective disaster management has contributed to the global decline in weather-related disaster mortality.

14. Various activities to reinforce national preparedness capacities were carried out by the Office for the Coordination of Humanitarian Affairs of the Secretariat in a number of countries, including Albania, Colombia, Croatia, the Dominican Republic, Ghana, Haiti, Kyrgyzstan, Maldives, Montenegro, Namibia, Oman and Turkey.

15. The Government of Ethiopia's weather risk management framework, supported by the World Bank and WFP, put in place an integrated risk management system to support the national productive safety net programme, which triggers a $160 million contingent finance pool to assist 8 million food-insecure households every year.

16. In Haiti, WFP supported the Government to prepare for disasters through standby agreements with partners and pre-positioning lifesaving supplies to be used in case of a disaster. Those efforts enabled the Government, the Programme and its partners to quickly respond to Hurricane Tomas and the cholera epidemic.

17. In West Africa, humanitarian agencies formed the Strategic Partnership for Preparedness. Capacity development activities are undertaken in-country, supported by regional and global partners. In Ghana, the emergency preparedness and response capacity assessment led to an action plan for 2011-2012.

B. Action at the regional level

18. Regional and subregional multi-stakeholder platforms for disaster risk reduction are gradually being institutionalized and represent unique regional opportunities for stakeholders to share experiences, monitor progress and take collective action to enhance the implementation of the Hyogo Framework. The Strategy secretariat regional offices support those platforms, in partnership with United Nations agencies, the World Bank and other partners.

Africa

19. States members of the African Union demonstrate continued commitment to disaster risk reduction through the adoption by the Executive Council of the African Union, at the January 2011 Summit, of a decision on the report of the Second African Ministerial Conference on Disaster Risk Reduction. The Executive Council endorsed the recommendations contained in the report, including strategic areas of action, key activities, expected results and indicators of the Extended Programme of Action for the implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006-2015) at continental, subregional and national levels.

20. Regional economic communities were empowered to provide effective coordination and strategic guidance to their member States to align their subregional strategies and programmes to the Africa Regional Strategy and Programme of Action and facilitate their implementation in their subregions. The work programme of the Economic Community of West African States, the Economic Community of Central African States, the Inter-Governmental Authority on Development (IGAD) and the Southern African Development Community now integrate disaster risk reduction as a priority in support of the Africa Regional Strategy and Programme of Action for Disaster Risk Reduction implementation.

21. The Inter-Governmental Authority on Development and the partner countries are working to build capacity and strengthen disaster risk reduction institutions; strengthen disaster risk management capacities of national and subregional bodies; build technical competencies and institutional capacities for disaster risk reduction and climate monitoring and prediction with financial and technical support by the Global Facility for Disaster Reduction and Recovery.

Arab States region

22. Arab nations recognize the impacts of ongoing environmental degradation, climate change, rapid unplanned urbanization, acute water scarcity, a changing demography and migration trends on achieving sustainable development goals for the region. Secondary risks associated with population displacements, disease outbreaks, pandemic influenza, food insecurity, conflict and civil unrest pose multifold challenges to the region, on a larger scale than ever before.

23. In recognition of the necessity to reduce risks associated with disaster trends in the region, the Council of Arab Ministers Responsible for the Environment adopted in December 2010 the Arab Strategy for Disaster Risk Reduction 2020, subsequently endorsed by Heads of State at the second Arab Summit on Socio-Economic Development in January 2011.

24. At the national level, countries began enhancing and systematizing information systems for disasters by establishing disaster losses databases that provide needed national and local risk and vulnerability information for decision makers. Jordan, the Syrian Arab Republic and Yemen completed their national disaster databases, while Djibouti, Egypt, Lebanon and Morocco are currently finalizing their own.

Asia and the Pacific

25. The Incheon Declaration of 2010 and the Incheon Regional Road Map, adopted at the fourth Asian Ministerial Conference on Disaster Risk Reduction, identified the integration of disaster risk reduction and climate change adaptation as the key priority focus area in the region until 2015. An action plan was adopted that provides comprehensive guidance to convert the Ministerial decisions and the Road Map into concrete actions at the national and local levels. Several civil society organizations and the Federation of Red Cross and Red Crescent Societies have expressed commitment to contribute to the implementation of those activities, in support of their respective Governments.

26. The 2010 Pacific Platform for Disaster Risk Management convened under the overarching theme "Enhancing the implementation of the Pacific Disaster Risk Reduction and Disaster Management Framework for Action through a multi-stakeholder approach". The Platform committed to enhance disaster risk management and climate change adaptation linkages at the national and regional level through better coordination and the development of integrated funding modalities; increase investments into disaster risk management in Pacific island countries and align investments with existing national priorities; foster mainstreaming of disaster risk reduction into national policies, budgets and all national sector plans where feasible; and share disaster risk management information and expertise through multi-stakeholder involvement, and especially the participation of communities, women and youth, politicians and parliamentarians, as well as civil society and sector experts.

The Americas

27. The second session of the Regional Platform for Disaster Risk Reduction in the Americas took place in Nuevo Vallarta, Nayarit, Mexico, from 15 to 17 March 2011, and resulted in the Communiqué of Nayarit, a statement on concerns and proposals for a regional development agenda that explicitly and effectively includes disaster risk reduction along with considerations of adaptation to climate change.

28. The role of the subregional mechanisms, such as the Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPREDENAC), the Comité Andino para la Prevención y Atención de Desastres (CAPRADE), the Reunión Especializada de Reducción de Riesgos de Desastres Socionaturales, la Defensa Civil y la Asistencia Humanitaria del Mercosur (REHU) and the Caribbean Disaster Emergency Management Agency, has been catalytic in fostering the inclusion of disaster risk reduction into national policies. A remarkable example was the approval of the Central American Policy for Integral Risk Management fostered by CEPREDENAC, which introduces disaster risk reduction as a binding policy instrument for the member countries. The experience of CEPREDENAC was awarded with a mention in the Sasakawa Award 2011.

Europe

29. Several high-level events contributed to increasing the political commitment for disaster risk reduction at the regional and subregional levels and to the integration of disaster risk reduction as a core priority of the mandate of key European institutions such as the Council of Europe, the European Commission and the Regional Cooperation Council for South East Europe. These political processes were complemented and supported by technical exchange of information, knowledge and experience among the Hyogo Framework focal points, national platforms, and partners in the context of the European Forum for Disaster Risk Reduction.

30. A medium-term plan for 2011-2015 was adopted in September 2010 at the twelfth Ministerial session of the Council of Europe European and Mediterranean Major Hazards Agreement (EUR-OPA) in St. Petersburg, to "improve prevention and preparedness and promote good risk governance, use knowledge to reduce vulnerability, improve preparedness for emergencies". At the session, the Council discussed the consequences of climate change on the frequency and intensity of disasters and the measures to strengthen societies' adaptation and resilience.

31. The European Parliament adopted a resolution on the Commission Communication: "A Community approach on the prevention of natural and man-made disasters" in 2009 that welcomes the Commission's commitment to ensuring that issues related to disaster prevention are taken into account more coherently in European Union policies and programmes. The European Forum for Disaster Risk Reduction will convene its second annual meeting in Skopje in October 2011.

C. Action at the international level

Priority 1
Ensure that disaster risk reduction is a national and a local priority

32. In partnership with parliaments at national, regional and global levels, disaster risk reduction was included in the agenda of several global and regional parliamentary assemblies. The Advocacy Kit "Disaster Risk Reduction: An Instrument for Achieving the Millennium Development Goals", developed by the Inter-Parliamentary Union and the Strategy secretariat, benefited parliamentarians from 124 countries.

33. The period 2010-2011 demonstrated that the Global Facility for Disaster Reduction and Recovery has been able to significantly contribute towards this priority area in 13 of its 31 priority countries. To support institutional capacity and consensus-building for disaster risk reduction, the Global Facility supported 123 active projects worth over $54 million and spanning more than 50 countries as well as regional and global engagements. The joint World Bank-United Nations publication entitled *Natural Hazards, UnNatural Disasters: The Economics of Effective Prevention* provides the economic rationale for investments in disaster prevention to underwrite political advocacy. The importance of sharing risk data to enable informed decision-making is highlighted in the report.

Priority 2
Identify, assess and monitor disaster risks and enhance early warning

34. The Global Risk Identification Programme assists over 30 countries to build better risk information foundations for sound decision-making through various

activities, such as setting up base lines for disaster risk and incorporating risk information in decision-making processes and development programmes.

35. The UNESCO international platform on earthquake risk reduction promoted the exchange of information-based seismology and earthquake engineering. In this context, the global task force on building codes has furthered its action plan. The International Consortium on Landslides will convene the second World Landslide Forum from 3 to 9 October 2011 in Rome, under the aegis of the International Strategy for Disaster Reduction.

36. The World Health Organization (WHO) supported Member States, including Afghanistan, Colombia and Mauritius, in aspects of risk assessment, such as the assessment of capacities, as a foundation for developing health emergency risk management programmes. South-east Asian countries applied a benchmarking process to assess current capacities and identify priorities for capacity development.

37. The International Federation of Red Cross and Red Crescent Societies published the *World Disasters Report 2010: Focus on urban risk*, which provides an in-depth look at the dramatic surge in the number of persons living in cities and towns.

38. The United Nations Environment Programme (UNEP) supported the International Strategy for Disaster Reduction system in undertaking global risk assessments for the *2011 Global Assessment Report on Disaster Risk Reduction*, through the development and maintenance of a web-based technical platform and source data for global risk evaluation of floods, cyclones, landslides, earthquakes, tsunamis, fires, storm surges and droughts. UNEP also developed an innovative risk assessment tool known as RiVAMP enabling policymakers to make informed decisions in support of sustainable development growth.

39. Improving disaster risk assessment and monitoring was the priority of 54 projects supported by the Global Facility for Disaster Reduction and Recovery with almost $22 million invested. The World Meteorological Organization (WMO), through regional climate centres and climate outlook forums, facilitated the development of climate services that include analysis of the changing patterns of hazards and provision of seasonal to longer-time-scale forecasts and outlooks to support national disaster risk reduction and climate adaptation planning. In cooperation with United Nations-International Strategy for Disaster Reduction system partners, WMO is facilitating regional and national capacity development projects for strengthening hydrometeorological risk assessment and multi-hazard early warning systems in the Caribbean, Central America, South-east Europe and South-east Asia. In addition, WMO published a book entitled *Institutional Partnerships in Multi-Hazard Early Warning Systems*, based on documentation and synthesis of seven national good practices.

40. The United Nations Children's Fund (UNICEF) and its partners collaborated to strengthen the evidence base on disaster risk and children. Carried out in seven countries, the studies conclude that to ensure that the specific climate risks and vulnerabilities faced by children are addressed, a "child centred approach" to disaster risk reduction and adaptation is needed.

Priority 3
Use knowledge, innovation and education to build a culture of safety and resilience at all levels

41. Support for disaster risk reduction capacity development continues to be an area of growing demand. The Capacity for Disaster Reduction Initiative (CADRI) — a partnership between the United Nations Development Programme, the Office for the Coordination of Humanitarian Affairs of the Secretariat and the Strategy secretariat — supported high-risk countries with capacity assessments and training.

42. While strides have been made, it is increasingly evident that needs remain, especially in strengthening the capacity of Ministries and relevant sectors to mainstream gender, including those institutions and government departments responsible for statistical collection and analysis, to collect and utilize sex-disaggregated data. The publication entitled *Making Disaster Risk Reduction Gender-Sensitive: Policy and Practical Guidelines* (2009) has been used as a reference for climate change adaptation training, benefiting more than 1,000 trainees from 107 countries.

43. The UNEP Finance Initiative works with major private insurance companies on a global initiative to integrate sustainability principles based on sound environmental management and disaster reduction criteria. UNESCO promoted disaster risk reduction as an intrinsic element of the United Nations Decade of Education for Sustainable Development, especially through the integration of disaster risk reduction into national education strategies and plans.

44. In over 25 countries, WFP supported Governments to implement food security monitoring systems tracking food security, nutrition, and market indicators alongside natural hazards to provide effective analysis to support disaster preparedness, prevention and response.

45. There are measurable increases in the use and popularity of Preventionweb.net, with a 130 per cent increase in content submissions from partners and a 75 per cent increase in the number of users.

Priority 4
Reduce the underlying risk factors

46. The Partnership for Environment and Disaster Risk Reduction developed a training course to build capacities of national and local governments in promoting and implementing environmental management and ecosystem-based initiatives for disaster risk reduction.

47. Together with partners, UNEP provides technical assistance that enables Governments to use environmental management tools for disaster-resilient, sustainable development planning, especially in the major ecozones vulnerable to disasters — coastal areas, mountains, river basins and drylands. Countries such as Haiti, Nepal, Peru, Sri Lanka and Uganda have benefited from such programmes. UN-Habitat supported Haiti, Chile, Colombia, Cuba and Ecuador in reducing urban risk through specific city programmes.

48. The UNDP Climate Risk Management initiative completed climate risk assessments in several countries across the world through ongoing global and regional programmes. Trainings and workshops contributed to national and local capacity-building in climate risk, impact and capacity assessment.

49. On 22 January 2011, the sixty-fourth World Health Assembly adopted a resolution (WHA64.10) in which it urged Member States, inter alia, to strengthen all-hazards health emergency and disaster risk-management programmes and develop programmes on safe hospitals. Similar resolutions were adopted in the Eastern Mediterranean and Pan American regions.

50. Disaster risk reduction and financing for sustainable development was supported by the Global Facility for Disaster Reduction and Recovery in 33 projects with a total approved cost of $14.1 million. For example, a study was launched under the policy guidance of the African Union Commission to explore the feasibility of establishing new ways of funding drought-related emergency relief in Africa, with a focus on country-led, sustainable risk management strategies for the continent.

Priority 5
Strengthen disaster preparedness for effective response at all levels

51. The Principals of the Inter-Agency Standing Committee (IASC) have recognized preparedness for emergency response as fundamental for rapid and effective post-disaster relief and recovery. The IASC Sub-Working Group on Preparedness is focusing efforts in support of strengthening national capacity for preparedness for emergency response in five pilot countries. The Capacity for Disaster Reduction Initiative is supporting these initiatives to help high-risk countries develop capacity specifically in the area of disaster preparedness with combined support from the international system. In collaboration with partners, the Office for the Coordination of Humanitarian Affairs undertook several initiatives, including development and revision of preparedness tools, joint planning as well as leading a task team to strengthen response preparedness at the regional level.

52. By capturing the synergies of the partners, the International Recovery Platform developed tools for recovery and provides capacity development on post-disaster recovery for national and local governments, through the guidance notes on infrastructure, shelter, health, psychosocial, climate change and adaptation, environment, gender, governance and livelihoods, as well as the post-disaster needs assessment.

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Sustainable development: Harmony with Nature

Harmony with Nature

Report of the Secretary-General

Summary

The present report is submitted pursuant to General Assembly resolution 65/164, in which the Assembly requested the Secretary-General to convene, at its sixty-fifth session, an interactive dialogue on harmony with nature to commemorate International Mother Earth Day, on 20 April 2011, in order to actively and effectively contribute to the preparatory process for the United Nations Conference on Sustainable Development, to be held in Brazil in June 2012, and to submit a report on the subject at its sixty-sixth session. The report of the Secretary-General focuses on the evolving relationship of humankind with nature as reflected in environmental legislation and draws upon key issues discussed at the interactive dialogue. Concrete recommendations are provided to facilitate further consideration of the theme by Member States.

* A/66/150.

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I. Introduction

1. In 2010, the General Assembly, by its resolution 65/164, entitled "Harmony with Nature", requested the Secretary-General to convene, at its sixty-fifth session, an interactive dialogue, to be held at two plenary meetings in commemoration of International Mother Earth Day, on 20 April 2011, with the participation of Member States, United Nations organizations, independent experts and other stakeholders, in order to actively and effectively contribute to the preparatory process of the United Nations Conference on Sustainable Development, which is to be held in Rio de Janeiro in June 2012. The interactive dialogue of the General Assembly, with two panels of experts, addressed: (a) ways to promote a holistic approach to sustainable development in harmony with nature; and (b) sharing national experiences on criteria and indicators for measuring sustainable development in harmony with nature.[1]

2. In its resolution 65/164 the General Assembly also requested the Secretary-General to make use of the existing information portals on sustainable development maintained by the secretariat of the United Nations Conference on Sustainable Development to gather information on ideas and activities to promote the undertaking of a holistic approach to sustainable development in harmony with nature and to advance the integration of interdisciplinary scientific work, including success stories on the use of traditional knowledge, and existing national legislation, with a view to making substantive contributions to the preparatory process for the Conference and beyond. Such a portal is being developed and will be launched by June 2012.

3. As the United Nations prepares to hold the United Nations Conference on Sustainable Development (also referred to as Rio+20), from 4 to 6 June 2012, the report focuses on the historic relationships different civilizations have had with nature, as expressed, inter alia, through environmental legislation, draws upon key issues discussed at the interactive dialogue in April 2011 to advance the holistic thinking undergirding the concept of sustainable development and builds upon, and should be read in conjunction with, the first report of the Secretary-General on harmony with nature (A/65/314).

4. The promulgation of environmental legislation began in earnest in the 1960s, with greater awareness of the need for environmental protection, and increasing public interest in the environment was behind the establishment of Earth Day, in 1970. The United Nations Conference on the Human Environment (the Stockholm Conference), which took place two years later, in 1972, helped to institutionalize consideration of the environment within national governance structures around the world. That Conference cemented the political realization that environmental degradation was caused both by affluence and by poverty, affecting rich and poor nations equally, albeit in different ways. On the tenth anniversary of the Stockholm Conference, in 1982, Governments adopted the World Charter for Nature, which reflected the interdependence of conservation and development.

5. As a follow-up to the Stockholm Conference, Governments established the World Commission on Environment and Development (the Brundtland Commission) to examine the concept of sustainable development. That concept is elaborated in the report of the Commission, "Our Common Future" (A/42/427, annex).

[1] See http://www.uncsd2012.org/rio20/index.php?page=view&type=13&nr=252&menu=46.

6. On the heels of "Our Common Future", Governments convened the United Nations Conference on Environment and Development, in 1994, to negotiate a global programme of action to achieve sustainable development worldwide. The outcome document of the Conference, known as Agenda 21, played a catalytic role in helping countries to operationalize sustainable development. In parallel to the two-year preparatory work for the Conference intergovernmental negotiating committees were established to formulate the framework conventions on biological diversity and climate change. The Conference also produced a set of agreed upon principles to protect forests and initiated negotiations to combat desertification and drought.

7. The underlying principle of the United Nations Conference on Environment and Development is explained in the first principle of the Rio Declaration: "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature". Following the 1994 Conference the United Nations established the Commission on Sustainable Development to follow up on the implementation of Agenda 21, and in 2002 it convened the World Summit on Sustainable Development in Johannesburg, South Africa, to renew the global commitment to sustainable development. In June 2012, the United Nations Conference on Sustainable Development will be held to further assess the progress countries are making towards achieving sustainable development and to address new and emerging challenges to ensure a sustainable future for all in harmony with nature.

II. The evolving relationship of humankind with nature

8. The evolving relationship of humankind with nature varies greatly in Eastern and Western intellectual traditions. Its roots are originally found in philosophy and religion. Although Eastern intellectual traditions are historically distinct from Western ones, the basic questions the great thinkers of Asia tried to answer are similar to those that have occupied philosophers and religious leaders in Europe and the Americas — how can we give our life meaning? How can we find happiness? The insight and wisdom offered by Eastern and Western traditions provide opportunities for dialogue among civilizations and a deeper understanding of our relationship with nature. The following sections describe the evolving relationship of humankind with nature and how thinking about this relationship has influenced the development of environmental legislation in the twenty-first century. Lessons for achieving harmony with nature today are also considered.

A. Relevant lessons from ancient civilizations

9. Eastern traditions are often interpreted as presenting no sharp divide between creator and created animals, between humans and gods. In Hinduism, for example, there is a focus on metaphysics, including the concepts of samsara (reincarnation), karma (cosmic justice), moksha (liberation from the cycle of existence) and atman (inner ultimate reality).[2]

10. In cultural practices and thought systems in China, "external nature is never understood on its own terms; it is always intimately related with human life".

[2] Grant Hardy, "Great Minds of the Eastern Intellectual Tradition", The Teaching Company, 2011.

Chinese culture upholds the belief that reality consists of countless manifestations of one unbroken continuum, the tao. The Chinese developed a cosmological myth through which the universe was viewed as an organic system of inter-dependent parts. This view led to the assertion of fundamental unity of all things in their essential aspects.[2]

11. The ancient Egyptians, whose source of food depended on the annual flooding of the Nile, worshipped a number of deities, and their complex system of beliefs and rituals revolved around the environment in which they lived. The recognition of the fact that the Nile itself rendered their agricultural lands fertile, in contrast to the arid desert in which their dead were buried, shaped their identity and religious beliefs.

12. In African communities, natural phenomena were once perceived to possess spiritual powers, and the natural world that supplied food and shelter was respected and revered. Certain trees were considered God's trees, sacred and endowed with healing powers. Land belonged to clans consisting of the living, the dead, and even the unborn, a concept which enhanced the idea of sharing and caring for nature.

13. Early pre-Columbian cultures tracked the movements of the planets and stars, including the Sun and the Moon, and their movements became woven into every aspect of life, binding the mundane with the celestial. Throughout the Andes, Pachamama is the most widespread name for Mother Earth. The name, in its fundamental sense, means fertile and fruitful Mother Earth. Pachamama conveys the symbiosis between humankind and nature, thereby giving nature due respect.

14. In the Western tradition, Greek and Roman philosophers had a clear concept of the laws of nature, as opposed to man-made law. Recognizing that people existed prior to the establishment of civil order and government, they made a clear distinction between natural law (*jus naturale*) and common law (*jus commune*).

15. Many classical Western thinkers pointed out that earlier civilizations had a more intimate and balanced relationship with nature. The Romans, for example, believed in the rights of animals (*jus animalium*), what philosophers would later consider as natural rights, which are independent of human civilization and government. After the decline of Greece and Rome and with the advent of Christianity, people increasingly came to see nature in the service of human beings. The value of the natural world came to be defined solely in terms of its capacity to fulfil human needs.[3]

16. The concept that air, water and fish are held in common for use by all was codified into law by the Romans. In A.D. 535, at the order of the Emperor Justinian, the *Corpus Juris Civilis* (body of civil law) was issued and existing Roman law was collected into a simple and clear system of laws. The first Justinian Code was completed in A.D. 529 and was later expanded to include Justinian's own laws, as well as two additional books on other areas of law. The Justinian Code, the first body of law relating to the environment, asserted that the law of nature is that which nature teaches to all animals, that is, it does not pertain exclusively to the human race, but to all life forms, whether of the earth, the air or the water.

17. With the fall of the Roman Empire the legal system prevailing in Europe became fragmented, and with the emergence of local regimes, a patchwork of feudal

[3] Roderick Frazier Nash, *The Rights of Nature: A History of Environmental Ethics*, University of Wisconsin Press, 1989.

laws, which in many cases included a combination of civil law and cannon law, constituted the only legal framework on the continent. It would not be until the introduction of the Napoleonic Code, in the post-feudal era, that there would be another such coherent body of law in Europe. The Napoleonic Code took the place of the disparate legal systems of feudal times and became one of the major pillars of the expansion of the Romano-Germanic legal tradition throughout Europe and the rest of the world.

B. The emergence of the environmental movement: sixteenth to nineteenth centuries

18. In the evolution of medical science that took place in the seventeenth century, vivisection was widely used to study the workings of the body. The practice angered early humanitarians, and vivisectionists turned to Rene Descartes (1596-1650) to justify their research methods. A celebrated mathematician, physiologist and psychologist, Descartes provided a general philosophy of the irrelevance of ethics to the relationship between man and nature.

19. Animals, according to Descartes, were insensible and irrational creatures, living things with no sensation of pain: lacking minds, they could not be harmed, did not suffer and had no consciousness. Humans, on the other hand, had souls and minds. Thinking, in fact, defined the human organism. "*Cogito ergo sum*" (I think, therefore I am) was Descartes' basic axiom. This dualism, the separation between human beings and nature, justified vivisection and any human exploitation of the environment. Descartes left no doubt that people were the "masters and possessors of nature". Descartes believed that the objectification of nature was an important prerequisite for the progress of science and civilization.[3]

20. In the sixteenth and seventeenth centuries, other contemporary scholars in Europe, including Gottfried Leibnitz, John Ray and Baruch Spinoza, disagreed with Descartes, believing that nature and the wilderness were imbued with spiritual values, and that humans could not, therefore, be separated from nature. In 1790, the writer John Lawrence noted that the lack of recognition of the rights of animals, *jus animalium*, was a fundamental human defect, and he called for full recognition of this concept, while for Thomas Hobbes, man, in the state of nature, sought self-preservation at all costs, as his "right of nature".

21. At the height of Descartes' influence in Europe, the early American settlers held an opposing view, believing that animals were not merely dumb beasts meant for a life of suffering. This alternate, but minority view was derived, in part, from the classical Greco-Roman idea that animals were part of the state of nature and subject to natural law. This idea was advanced by the early settlers in New England, who enacted a law which acknowledged the rights of non-human beings. The "Massachusetts Body of Liberties" published in 1641 in the Massachusetts Bay Colony, is the earliest general law forbidding cruelty to domestic animals in Anglo-American jurisprudence.

22. In his book, *Some Thoughts Concerning Education* (1693), John Locke reasoned, in opposition to Descartes, that animals can experience pain and suffering, and that harming them needlessly is morally wrong. In his 1693 discourse, Locke moved beyond a strict concept of utility, in which not only customarily owned and useful animals like cattle and horses should be well treated, but also squirrels, birds,

insects and, indeed "any living creature".[4] Between the sixteenth and nineteenth centuries, encouraged by the writings of people like Nathaniel Ward and John Locke, the seeds of an alternate worldview where humans were an integral part of nature were planted. In his 1691 publication, *The Wisdom of God manifested in the Works of Creation*, the English botanist John Ray argued that animals and plants exist to glorify God and that their right to life do not depend on their usefulness to man.

23. John Ray and Baruch Spinoza, among others, were writing during a time of rapidly widening scientific horizons and related challenges to anthropocentrism. Telescopes suggested that the earth was not the centre of the universe. The microscope revealed a complex community on which mankind seemed to depend rather than the other way around. Explorers revealed the existence of vast uninhabited wilderness that was teeming with different forms of life, perfect and complete in and of themselves and, never even seen by humans. The more human beings learned about nature, the more difficult it became to entertain the notion that the universe existed solely for them. No longer were people considered as the masters of nature, but rather as members of the natural community.

24. In the 1660s, Louis XIV's Minister Jean-Baptiste Colbert introduced and enforced the strictest forestry laws in the history of France.[5] In 1822, in the United Kingdom, Richard Martin's activism led to the protection of large domesticated animals, notably cattle (Martin's Act). Two years later, Martin, William Wilberforce, and others created the Royal Society for the Prevention of Cruelty to Animals. Twenty years earlier, Wilberforce had been a leader in the fight to abolish slavery and the slave trade. John Stuart Mill, a pre-eminent nineteenth century philosopher, wrote that the laws making it a crime for parents to abuse their children should also be extended to animals. The idea of liberating oppressed beings was not easily confined to humankind.

25. Charles Darwin (1809-1882) shocked the conceit of humanity by placing human evolution alongside that of animals, that is, as part of nature. The evolutionary explanation of the proliferation of life on earth undermined dualistic philosophies thousands of years old. Darwin's works, *The Origin of Species* (1859) and *The Descent of Man* (1871), became important sources in the development of environmentalism and environmental ethics. Dietrich Brandis, a German scientist, pioneered forestry management in India and mentored many foresters, including Henry Graves, as well as Gifford Pinchot, who would later head the United States Forest Service.[6]

26. The struggle for humanitarian legislation in the United Kingdom reached a high point in 1876 with the passage of the Cruelty to Animals Act. Vivisection was an issue which elicited strong opinions from the leading members of the scientific and humanitarian communities in the United Kingdom. The nineteenth century saw significant advancements for the institutionalization of humanitarian values and rights into law. Heretofore, societies and their accompanying laws had usurped the rights of all around them for the gain of elites.

[4] James L. Axtell, ed., *The Educational Writings of John Locke: A Critical Edition with Introduction and Notes*, Cambridge University Press, London, 1968.

[5] Paul Walden Bamford, "French Forest Legislation and Administration, 1660-1789", *Agricultural History*, vol. 29, No. 3, 1955.

[6] Obituary: Sir Dietrich Brandis, F.R.S., *The Geographical Journal*, vol. 30, No. 1, 1907.

27. Although anthropocentrism was questioned, many people remained convinced that human beings, as the most advanced form of life, would continue to exploit other beings and to extract what they wanted from the environment. The point was made that they should do so carefully, according to the principles of good stewardship, and always mindful of the fact that other interests, including religious interests, were involved. From that point of view, the impact of people on the planet carried with it some disturbing ethical problems.

28. Since in Europe, for the most part, the wilderness had been transformed, there was increasing concern that the new world, the Americas, would follow suit. Writers such as the French thinker and historian Alexis de Tocqueville and the Dutch Lutheran minister and author John Bruckner wrote about this foreseeable trend, predicting the widespread slaughter of wildlife, some species to the point of extinction. By the eighteenth century, people in the United States had begun to protest against cruelty to animals, including vivisection, cock-fighting, staged fights with dogs, and fox hunting, among other forms of purposeless brutality. This activism to advance environmental rights represented a persistent and growing respect for the spiritual, cultural and restorative values of nature. The environmental movement had begun in earnest.

29. Around the same time that the environmental movement in the United States was taking hold, so too were other social movements, notably the movement for women's rights. This is no coincidence. Prominent figures, including John James Audubon, John Muir, Lewis Mumford, Gifford Pinchot, Henry S. Salt and Henry David Thoreau, who were able to mobilize powerful individuals and money and to popularize aesthetic values, played a key role in catalysing the environmental movement in America. A pioneer of the concept of biodiversity, Mumford inspired many writers, for example, in the East, Ramchandra Guha, the Indian environmental and social commentator.

30. Despite the fact that they were not tightly organized as a social movement, ti ese elites nonetheless formed a loosely linked network of influential people who were calling for wilderness protection. In the mid-1800s, as Thoreau was advocating the establishment of protected areas, many other individuals were separately arguing for the same goal. After a visit to Yosemite, California, in 1863, Frederick Law Olmsted and I. W. Raymond petitioned the United States Congress to preserve the area in its natural state. The bill for the preservation of Yosemite was approved in 1864, setting aside 10 square miles "for public use, resort and recreation".

31. From the sixteenth and to the nineteenth centuries, calls for the protection of animals and their rights as well as the protection of their environment increased, catalysed by a growing ideology of humanism and humanitarianism that paralleled similar calls for the end of slavery, the enactment of child labour laws and recognition of women's rights. In the late eighteenth century, the French Revolution would mark the consolidation of the concept of the rights of man in Europe and around the world.

32. In the United States, at the turn of the century, Edward Payson Evans (1831-1917) made the first extensive statement of what would come to be called environmental ethics. For Evans, non-human life forms, including every "sensitive" living thing, even inanimate objects such as rocks and minerals, have intrinsic rights that humans ought to not violate. In Russia, Peter Kropotkin and Leo Tolstoy and in

India, Mahatma Gandhi all made environmental protection an integral part of their world view.

33. Scholars in the Eastern intellectual tradition were also concerned in earlier centuries with the evolving relationship of humankind with nature. The Chinese philosopher Wang Yangming (1472-1529) advanced the "heart and mind" concept, which, in contrast with Descartes' dualism, encapsulated the connection between the mental process and the body. In his understanding, the concept of the mind is not reduced to one's self, but starts with one's self and flows to other people and from people to animals and from animals to trees and plants, and thence to stones and material things.

C. The twentieth century and human reconciliation with nature

34. Whereas in the nineteenth century, environmental protection was largely advanced for utilitarian purposes, be it for food, timber or shelter, the scientific basis for the need to protect the environment and its natural resources gained significant ground in the twentieth century. Scholars and scientists developed new concepts describing the importance of interconnectedness and the balance of life on Earth.

35. Frederic E. Clements (1874-1945) investigated what he called the "succession" of plants. He understood that many living things function together, and that the whole was more than the sum of the parts; plants interrelate with the climate, soil and with each other to form a natural environment, for example, a grassland habitat. The Scottish scientist J. Arthur Thompson (1861-1933) also described his concept of the web of life, and Victor E. Shelford (1877-1968) set out his understanding of the biome. Liberty Hyde Bailey (1858-1954) advocated abandoning "cosmic selfishness" and developing a sense of "earth righteousness". Because of the holistic orientations of their discipline, these early ecologists frequently connected their scientific research to moral philosophy.

36. In 1927, Charles Elton (1900-1991) coined the phrase "food chain". His ecological research revealed nutritional dependencies that started with the life force provided by the sun to plants, to plant eaters and to carnivores. Elton used the metaphor of a pyramid: the simplest organisms with the shortest food chains were the most numerous and, at the base of the structure, the most important. Remove the top of the food pyramid, a hawk or a human, and the system was hardly disturbed. But take away the simplest organisms at the base, such as plant life or soil bacteria, and the pyramid would collapse.

37. Philosophy and theological inquiry also informed environmental conservation ethics. Nobel Laureate Albert Schweitzer (1875-1965) considered that a reverence for life was a sufficient rationale for valuing the environment. From his study of the ethical teachings of the Indian and Chinese traditions, Schweitzer extended a theory of value based on the "will to live", which included humans and all living beings. He believed that human beings should give all creatures with a will to live the same reverence for life that they give to their own. Alfred North Whitehead (1861-1947) added to this idea, contending that the identity and purpose of every object in the universe arose from its relationship to everything else. Every organism, indeed every atom, had intrinsic value if only for the contribution it made to the ongoing reality of the interlocking pieces that make up the world. In calling for the

preservation, promotion and enhancement of life. Schweitzer placed animals on the same footing as humans.

38. Aldo Leopold (1887-1948), an American scholar, also contributed to development of environmental ethics, reinforcing and further expanding the argument that the earth, as the source of our physical existence, was worthy of ethical consideration. Whereas past humanitarians were concerned with living things, Leopold argued that the oceans and mountains, while inorganic, were equally important components of the inter-connected and living Earth. Russian philosopher Peter D. Ouspensky (1878-1947) supported Leopold's arguments, stating that "there can be nothing dead or mechanical in nature ... life and feeling ... must exist in everything".[7] These thinkers believed that, although hidden from humans, everything in the universe had a purpose and an essence.

39. Leopold called for an ethical relationship between man and nature, stressing that a strictly economic posture towards nature created serious ecological and ethical problems. "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect".[8] In his view, the earth was alive, "vastly less alive than ourselves in degree, but vastly greater than ourselves in time and space". In the 1950s Pulitzer Prize winner and bacteriologist René Dubos (1901-1982) explained the importance of micro-organisms, including germs and their accompanying diseases, as part of the natural harmony of the Earth.

40. Rachel Carson, in her landmark study on the environment, *Silent Spring* (1962), chronicled the harmful effects of pesticides on man and nature. Carson helped make people understand that mankind's growing ability to dominate and control nature could prove to be counterproductive. Humans needed what she called "humbleness" and an ethic that stressed "sharing our earth with other creatures".

41. For Edward O. Wilson, the study of insects that exhibit social ties, such as ants and bees, led to a concern for kinship ties and ethical responsibility. Wilson reasoned that human survival is threatened by the loss of biological diversity. While the utility of certain species may not yet have been determined, this does not mean that they do not have value, including the possibility that some may be used in the creation of new medicines. Wilson's biophilia explained human's psychological connection to the environment, complementing and rounding out other explanations of human dependence on the natural environment for survival.

42. By the end of the twentieth century, humankind, while still holding an underlying anthropocentric view of nature, had fully embraced the existence of nature in all its forms: animals, plant life, rocks, ecosystems, the planet and the Universe. Thus a fragmented approach to human existence was gradually replaced by a holistic concept of sustainable development.

43. As we renew our commitment to the concept of sustainable development, it is important to reflect upon some of its key achievements. The work accomplished by the men and women who contributed to the United Nations Conference on Environment and Development at the close of the twentieth century is a legacy to

[7] Peter D. Ouspensky, *Tertium Organum*, Knopf, New York, 1981.

[8] Aldo Leopold, *A Sand County Almanac*, Oxford University Press, Oxford, 1949.

however as we carry forward the torch to which future generations will look for inspiration.

III. Promoting harmony with nature in the twenty-first century

A. The enabling role of legislation and public policy

44. The 27 principles contained in the Rio Declaration of 1992 have guided the international community in its efforts to achieve sustainable development in harmony with nature. They have inspired decision makers, scientists, researchers, environmentalists, writers and members of civil society in their journey to consolidate sustainable development worldwide. The principles have further enabled humankind to deepen its understanding and interaction with nature and, today, stakeholders have access to mechanisms to protect and defend nature.

45. The empathy of humankind with nature is clearly manifested in numerous legal systems worldwide. In the space of 20 years many Member States have incorporated the principles embodied in the Rio Declaration into national legislation either through constitutional provisions or general provisions in sectoral laws. The following examples illustrate some of the instruments that stakeholders have at their disposal.

46. In 2001, the Convention on Access to Information, Public Participation and Access to Justice in Environmental Matters (the Aarhus Convention) was adopted under the aegis of the Economic Commission for Europe. Although regional in scope, the convention is considered global in its significance, specifically in the recognition that Governments can only achieve sustainable development through the involvement of stakeholders.

47. The Aarhus Convention establishes three sets of rights for the public, requiring public authorities to: (a) provide environmental information upon request from the public, including an obligation to collect and disseminate available environmental information to the public; (b) establish transparent and fair procedures allowing public participation in environmental decision-making, including in the preparation of plans and programmes relating to the environment or in the drafting of executive regulations and other generally applicable legally binding rules that may have a significant effect on the environment; and (c) establish procedures guaranteeing the public access to information or participation and the right to challenge illegal acts and omissions by private persons and public authorities, including denial of access to environmental information, that contravene provisions of national laws relating to the environment.[9]

48. Regional agreements provide detailed standards on how to frame wildlife regulation at the national level. Environmental legislation within the European Union requires a timely and effective integration of its rules into national legislation by its member States. The existence of a judicial system able to impose financial penalties for lack of implementation for enforcement, to which all member States are subject, strengthens the obligations that derive from such legislation.[9]

[9] Elisa Morgera, "Wildlife law and the empowerment of the poor", Food and Agriculture Organization of the United Nations, Rome, 2010.

49. In Africa, several regional agreements have direct or indirect relevance for wildlife management and should be taken into account by legal drafters in the States parties to them. For example, the African Convention on the Conservation of Nature and Natural Resources was originally concluded in 1968 in Algiers and was then revised in Maputo in 2003 by the Assembly of the African Union. The overall objective of the revised convention is the conservation and management of animal and plant species and their environment. To conserve animals, particularly threatened species, States parties must adopt policies and management measures for the sustainable use and the conservation of those species both in and outside their natural habitats. Continued scientific research and monitoring will guide management of the species and their environment.[9]

50. The Convention on Conservation of Nature in the South Pacific of 1976 (the Apia Convention) established a broad framework for nature conservation in the South Pacific region, particularly in relation to migratory and endangered species and the preservation and management of wildlife habitat and terrestrial ecosystems. The convention includes provisions for the establishment of protected areas and calls upon States parties to prohibit the hunting and commercial exploitation of such species in national parks and to maintain lists of indigenous fauna and flora at risk of extinction for their full protection (article 5), in accordance with traditional cultural practices.[9]

51. The 1985 Agreement on the Conservation of Nature and Natural Resources of the Association of Southeast Asian Nations has the objectives of maintaining essential ecological processes and life-support systems, preserving genetic diversity and ensuring the sustainable utilization of harvested natural resources. It also addresses public participation in planning and implementation of conservation measures.[9]

52. Access to justice is one of the pillars of legal empowerment. It increases accountability and protects rights, including rights to public participation. Article 9 of the Aarhus Convention deals with access to justice and states that the public should have access to administrative and/or judicial procedures to challenge illegal acts and omissions relating to the environment. This includes the right to challenge official acts, including denial of access to environmental information.[9]

53. Legislation should assure access to justice in instances involving both private persons and public authorities in wildlife-related matters. Furthermore, the legislation should draw the bounds of official powers clearly, so that courts or administrative reviews have clear standards to apply. While general environmental legislation may serve this purpose, there are also examples of wildlife-specific provisions in this regard.[9]

54. While laws usually refer to general means for dispute resolution, stakeholders may need more specific provisions ensuring a fair and efficient process for resolving disputes, not only between users, but also between users and government entities. The right to challenge government decisions at administrative and judicial levels functions as a public accountability mechanism over the wildlife regulatory system. In addition, laws can set up alternative dispute resolution mechanisms, not only for the resolution of conflicts but also for their prevention. For example, mediators can help communities and wildlife agencies negotiate general agreements concerning protected area management or enforcement before specific conflicts arise.[9] Such mechanisms have proven to be preferable for the poor since they are more

accessible than courts, affordable, easily understood and effective (for example, the Commission on Legal Empowerment of the Poor of the United Nations Development Programme). In some instances, legislation may empower citizens to submit a complaint or request an injunction for violations of wildlife laws.[9]

55. In the United States, in accordance with federal wildlife laws, the public has the right to sue for destruction or injury to certain species of wildlife. To that end, a citizen must show personal injury rather than injury on behalf of the environment itself, causation and redress ability (see, for example, United States Supreme Court decision in Friends of the Earth, Inc. v. Laidlaw Environmental Services, Inc. (2000)). Redress of an injury can occur in the form of a sanction that effectively abates conduct that is proven to be injurious to the environment. However, the Endangered Species Act of 1973 provides a clear exception to this rule, providing the right to any private citizen to commence a civil suit on his or her own behalf to enjoin any person, including any governmental instrumentality or agency, from engaging in certain activities in violation of any provision of the act. In 1998, a United States law created the Institute for Environmental Conflict Resolution. The Institute maintains a roster, searchable online, of individuals trained and experienced as environmental mediators, including a special group of mediators who have experience with indigenous communities.[9]

56. While numerous agreements and cooperation mechanisms on the protection and enhancement of the environment have emerged in Latin America and the Caribbean, for example the annual International Convention on Environment and Development as well as the Convention for the Protection and Development of the Marine Environment, the strongest and most significant environmental laws in this region are implemented at the national and multilateral level.

57. The increasing number of specialized environmental courts and tribunals that resolve environmental issues, which have grown from only a handful in the 1970s to more than 350 in 41 countries, are making major strides in providing access to justice, environmental governance and protection of the environment around the world. The dramatic growth in the number of these courts is the result of the complexity of environmental laws and in public awareness of environmental problems. Environmental courts and tribunals have recently been created in Abu Dhabi, Bolivia (Plurinational State of), Chile, China, El Salvador, India, Thailand and the Philippines. It is foreseen that changes in environmental law will continue, driven by increasing demands from the public for "access rights" and increasing public concern about specific environmental issues, including climate change, sustainable development, extinction of species and loss of natural areas.[10]

58. The importance of and need for public participation, not only in governmental decision-making but also, more broadly, in the work of sustainable development, is at the core of Agenda 21 and the Rio Declaration. However, in spite of the commitment by different sectors of society, environmental degradation continues, poverty persists and financial crises recur. These are constant reminders of the weaknesses of viewing sustainable development efforts through a predominantly economic framework.

[10] George and Catherine Pring, *Greening Justice: Creating and Improving Environmental Courts and Tribunals*, The Access Initiative, 2009.

B. Nature: to have or to be?

59. Current consumption and production patterns worldwide are taking a heavy toll on the Earth and its resources. Indeed, the roots of many of our problems can be traced back to the evolution of our consumption patterns. The current cultural paradigm dominant in many parts of the world and across many cultural systems is consumerism, which encourages people to find meaning, contentment and acceptance primarily through the consumption of goods and services.[11]

60. Paradoxically, research shows that while consumerism is associated with the catering of psychological needs and the creation of instantaneous pleasure, there is evidence that consuming more is not necessarily linked to more happiness. Indeed, according to some psychological studies, money and well-being are related only until a certain point. While in less developed countries, lack of money has an effect on the well-being of the poorer sectors of society, it also appears that once people achieve higher incomes, additional increases have a small impact on well-being, "suggesting that added income beyond modest affluence no longer helps answer important desires and needs".[12]

61. One of the pillars of consumerism, the constant desire for more money and more goods, is inversely correlated to well-being among people of different social strata.[12] People get frustrated when they cannot afford the objects of their desire, but even when they can, their satisfaction is short lived. Psychologists have hypothesized that the toxic effects of materialism do not fulfil intrinsic human desires and lead to goals that can never be completely fulfilled.

62. Environmental scientist and systems analyst Donella Meadows has explained that the most effective leverage point for changing a system is to change its paradigm, that is to say, the shared ideas or basic assumptions around which the system functions. In the case of the consumerist paradigm, the assumptions that need to change include that more goods make people happier, that perpetual growth is good, that humans are separate from nature and that nature is a stock of resources to be exploited for human purposes.[11]

63. Just as a consumerist paradigm encourages people to define themselves and their well-being through their consumption patterns, a sustainability paradigm would work to find an alternative set of aspirations, and to reinforce it through cultural institutions and drivers. It should become "natural" to find value and meaning in life through how much a person helps to restore the planet rather than how much an individual earns, how large a dwelling is or how many material goods someone has.[13]

64. In general, the solutions that have been identified have focused on reducing emissions rather than preventing them, on creating new products to consume rather than in slowing down consumption, in producing green products rather than in producing less. "The reason that green technologies will not save us is that they are only part of the picture. Our collective impact on the planet ... results from a

[11] Donella Meadows, "Leverage Points: Places to Intervene in a System", The Sustainability Institute, 1999.

[12] Ed Diener, *The Science of Well-Being*, 2009.

[13] *State of the World 2010: Transforming Cultures: From Consumerism to Sustainability*, The Worldwatch Institute, 2010 (http://www.worldwatch.org).

combination of how many of us there are, what kind of technologies we use, and how much we are consuming."[14]

65. At present, scientists, intellectuals and other thinkers are looking into measures of well-being. Traditionally, States have used the gross domestic product (GDP) as an indirect indicator of national well-being. Broadly, the goal of most countries has been to increase the economic means of the population. Nevertheless, as psychologists are finding out, money does not always produce a sense of well-being. Well-being encompasses, inter alia, interpersonal relations, health and a clean environment, aspects which are not normally taken into account in the GDP.

66. In order to create indicators that could provide a more accurate reflection of the level of well-being of a population, alternative measures focusing on the redefinition of well-being and our common social purpose are being considered. Along with respect for the environment, "a new understanding of the good life can be built not around wealth but around well-being: having basic survival needs met, along with freedom, health, security and satisfying social relationships. Consumption would still be important but only to the extent that it boosts quality of life."[15] Additional indicators of sustainable development and a less consumerist society are not only possible, but essential.[15] It is necessary to change our current paradigm, which is grounded in the false premise that nature is an object that can be appropriated and exploited.

67. Today we are experiencing what has been called the "double burden of malnutrition": while there are close to a billion[16] malnourished people in the world, we also have an increase in a number of health problems associated with obesity. It has been calculated that the world is producing enough food to provide every person with 2,700 calories a day, which is 600 calories more than the recommended amount for adults.[17] It is also estimated that one third of the world's food produced for human consumption is lost or wasted each year. While rich countries waste food primarily at the level of the consumer, the main issue for developing countries is food lost because of weak infrastructure, including poor storage, processing and packaging facilities that lack the capacity to keep produce fresh. Food wasted by consumers in rich countries (222 million tons) is roughly equal to the entire food production of sub-Saharan Africa (230 million tons).[18]

68. The World Health Organization (WHO), in its first Global Status Report on Non-communicable Diseases, has confirmed that 36.1 million people died from such causes in 2008. The four main non-communicable diseases, cardiovascular disease, cancer, chronic lung diseases and diabetes, kill three in five people worldwide, and cause great socio-economic harm within all countries, particularly developing nations. Clearly non-communicable diseases are on the increase, and many of their origins

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[14] Annie Leonard, *The Story of Stuff*, Simon and Schuster, New York, 2010.

[15] *State of the World 2004: Special focus: The Consumer Society*, The Worldwatch Institute, 2004 (http://www.worldwatch.org).

[16] In 2010, the number of malnourished people in the world was 925 million. That number rose to 1.023 billion in 2009 owing to multiple crises. This marginal improvement in 2010 is being threatened by a surge in food prices in the later half of 2010. See *The State of Food Insecurity in the World 2010*, Food and Agriculture Organization of the United Nations, Rome, 2010.

[17] "How much is enough?", http://www.economist.com/node/18200702.

[18] *Global Food Losses and Food Waste*, Food and Agriculture Organization of the United Nations, Rome, 2011.

can be traced back to poor eating habits (cardiovascular and diabetes), smoking and exposure to toxic chemicals and carcinogenic substances (cancer and respiratory diseases), among other causes. To promote collective action against the epidemic, the General Assembly will convene a High-level Meeting on Non-communicable Diseases on 19 and 20 September 2011.

69. Human beings, like the Earth, are losing their capacity to live in homeostasis, which is the ability of an organism or cell to maintain equilibrium, to regulate its internal conditions, for example the chemical composition of its body fluids, in order to maintain health and functioning, regardless of outside conditions. Without proper balance, even a healthy diet will fail to provide nutrients the body needs. We are not what we eat we are what we metabolize and this also holds true for the Earth. The Earth's topsoil, its living plasma, which is essentially non-renewable, has been sloughed off at a rate of five to one hundred tons per acre per year, and contamination is taking an additional toll.

70. At present, humankind, by eroding the foundations of its source, Mother Earth, has put its very existence at risk.

71. As natural disasters become stronger, more frequent and hit wider areas, the devastation and suffering the elements inflict act as portents of the future. In the light of the natural disasters that hit Japan in March 2011, the country's energy plan is being re-examined and a major shift in its sources of energy, from nuclear to alternatives, is being considered. Countries like Germany and Switzerland have also announced the phasing-out of nuclear plants in favour of renewable energy by 2022 and 2034, respectively.

72. If we are to avoid catastrophe, current world conditions leave no doubt that a major change is required in the way that human beings relate to the three pillars of sustainable development: environmental, social and economic. We have chosen to be defined in terms of things, and it is precisely things which are holding us back from reaching our full potential, from realizing our interrelatedness with nature, from advancing towards sustainable development and, ultimately, from living a life in harmony with nature.

73. By the dawn of the second millennium, a number of countries had already started to move away from the anthropocentric view of nature held over so many centuries. In New Zealand's Environmental Act of 1986, the essential value of nature was specified, as follows: "Ensure that, in the management of natural and physical resources, full and balanced account is taken of the intrinsic values of ecosystems".[19]

74. In Sweden, the preservation of biological diversity is one of the five objectives contained in the Environmental Code of 1999, which states "Biological diversity must be protected since the natural environment is worth protecting for its own sake. This means that the long-term productive capacity of ecosystems must be preserved. Biological diversity relates both to the diversity of ecosystems and the diversity of animal and plant species."[20] Finland's 2006 national strategy for sustainable development states that its goal is to assure people's well-being within the limits of the carrying capacity of nature both, nationally and globally.[21] Norway's Animal

[19] http://www.legislation.govt.nz/act/public/1986/0127/latest/DLM98975.html.

[20] See http://www.sweden.gov.se/content/1/c6/02/05/49/6736cf92.pdf.

[21] See http://www.ymparisto.fi.

Welfare Act, which came into force in January 2010, states, in article 3, "Animals have an intrinsic value which is irrespective of the usable value they may have for man. Animals shall be treated well and be protected from danger of unnecessary stress and strains".[22]

75. The newly adopted constitution of Ecuador (2008) states that the rights of nature should be taken into account in all planning activities, including: the right to have its existence respected in an integral manner, including the maintenance and regeneration of its cycles, functions and evolutionary processes; and the right to restoration.[23] On December 2010, the Plurinational State of Bolivia adopted a new Law of the Rights of Mother Earth, granting her the following seven rights: the right to life and to exist; the right to not have cellular structure modified or genetically altered; the right to pure water; the right to clean air; the right to balance; the right to continue vital cycles and processes free from human alteration; and the right not to be polluted.[24]

IV. Conclusion

76. Modern, post industrial society has become materialistic and consumerist based upon the illusory promise of unlimited happiness, material abundance and domination of nature. Since the industrial age, the economic system that has been developed has not been determined by what is good for people, much less for nature, but rather by what is good for the growth of the economic system. In such a system, nature, our source and the sustenance of our existence, has been ignored and exploited. In our blindness, we have undermined the amazing abilities, the abundant nutrients and energy given us by Mother Earth to sustain both the Earth, in her regenerating capacity, as well as our human existence.

77. As recurrent financial crises constantly remind us, a socio-economic system based on material growth is not sustainable, just as striving for infinite growth in a world of finite resources is contradictory. We need to transform our society into one in which all forms of life are revered. Only such a society can truly be wholesome. In order to achieve this, we must revisit not only the existing economic paradigm but also the moral values that support it. Wealth, knowledge and technology make valuable contributions. But they alone will not save humankind from its excesses and its deleterious impact on Mother Earth. We are witnessing an accelerating deterioration of the health of our Mother Earth. We must accept that we ourselves are an intrinsic part of nature. By contaminating and depleting Mother Earth, we are also contaminating and depleting ourselves. We are contributing to the forces and imbalances that cause the increasing natural disasters that are affecting us.

78. As we prepare to convene the United Nations Conference on Sustainable Development, changing how we behave on the planet will require a major shift in values. Our survival depends on the wise choices of how we coexist with Mother Earth. Experts tell us that we are collectively consuming, each year, one third more resources that can be regenerated by the Earth herself in a single year. World

[22] See http://www.regjeringen.no.

[23] See http://pdba.georgetown.edu/constitutions/ecuador/ecuador.html.

[24] See http://www.gacetaoficialdebolivia.gob.bo/normas/.

consumption and production needs to converge towards a sustainable range, with developed countries taking the lead.

79. We need to accept nature as our source of guidance to create an economic system that is both morally and scientifically sound. We need to accept nature as our source of guidance for ending the poverty afflicting so many millions of people for whom the world remains wide and alien. We need to accept nature as our source of guidance for ending our paucity of spirit so that we can learn to live below our means and within our needs. We need to reintegrate with nature in a way that we have not yet done. Nature and her intrinsic value must be revered and honoured. We must finally realize that in order to reinforce the cause of sustainable development we must work to render each one of its pillars, environmental, social and economic, whole.

80. Along with reverence for nature as our guide, it is to our spirit that we must turn in order to advance in our journey towards sustainable development. We must look at the bedrock of our intrinsic human values, at the intentions behind our actions. As we honour the legacy of the innumerable people who have sought throughout history to achieve a wholesome society, we must, in turn, recognize our gratitude for their work. Mankind has a history of ten thousand years, and all of humankind is involved in this journey together. Let us create a new calendar, a global consciousness of reverence for nature, let us draw upon the wisdom of ancient civilizations to live in harmony with nature. As we renew our commitment to sustainable development, let us not lose sight of the fact that we should be remembered as the generation that created a consensus at the United Nations Conference on Sustainable Development, which restored civilization to its roots, in harmony with its source: Mother Earth.

V. Recommendations

81. Drawing on the foregoing discussion and on views expressed at intergovernmental meetings as well as major group consultations on Harmony with Nature, States may wish to take into account the following recommendations:

(a) To consider a declaration recognizing nature's intrinsic value and its regenerating capacity, in the context of the United Nations Conference on Sustainable Development in June 2012;

(b) To further update the knowledge base on Harmony with Nature, the General Assembly should continue to invite, as appropriate, representatives of institutions, organizations, research centres and academia, as well as Nobel laureates, to provide briefings for decision makers, inter alia, on the themes addressed in the present report;

(c) To continue showcasing, through the United Nations sustainable development websites, the work being undertaken to advance development for all in Harmony with Nature, integrating the economic, social and environmental pillars.